THERAPISTS' KNOWLEDGE OF EVIDENCE-BASED PRACTICE: DIFFERENTIAL DEFINITIONS, MEASUREMENT, AND INFLUENCE ON SELF-REPORTED PRACTICE

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ABSTRACT

In recent years, the field of youth mental health has shifted its major focus from identifying evidence-based practices (EBP), to their dissemination and implementation in large mental health settings. Consolidated frameworks and theories of behavior change all hypothesize that therapist attitudes and knowledge are important facilitators of adoption. Empirical studies have suggested that attitudes and knowledge significantly relate to the use of EBP. Positive attitudes have generally predicted EBP use over time. However, EBP knowledge is less studied and has produced mixed findings related to EBP use. This variability may stem from how EBPs are defined and what type of knowledge (i.e., general awareness or process) is being measured. The current study defined the constructs of EBP and EBP knowledge, and examined the extent to which therapists' attitudes and knowledge influenced self-reported EBP use. Forty-six therapists serving youth in community-based intensive in-home settings were administered measures of EBP attitudes and knowledge. Results indicated that generally both types of knowledge significantly and positively related to self-reported EBP use. An inverse relationship between EBP attitudes and self-reported EBP use was also found. Therapists' years of clinical training, age, and months serving a particular youth as well as youth age were significantly related to self-reported EBP use, which varied depending on the practice examined. These findings suggest that therapists' knowledge and attitudes may influence their decision to adopt and use EBP in community mental health settings. Consistencies and divergence from previous literature and limitations are also discussed.

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LIST OF ABBREVIATIONS AND SYMBOLS

α ..... Alpha

β ..... Beta

AIC ..... Akaike Information Criterion

BIC ..... Bayesian Information Criterion

CAMHD ..... Child and Adolescent Mental Health Division

EBP ..... Evidence-Based Practice

EBPAS ..... Evidence-Based Practice Attitudes Scale

EST ..... Empirically-Supported Treatment

CFIR ..... Consolidated Framework for Implementation Research

DIS ..... Dissemination and Implementation Science

ICC ..... Intraclass Correlation

KEBSQ ..... Knowledge of Evidence-Based Services Questionnaire

MTPS ..... Monthly Treatment Progress Summary

OR ..... Odds Ratio

PDE ..... Practices Derived from the Evidence-Base

PWEBS ..... PracticeWise Evidence-Base Search Engine

R-EBPPAS ..... Revised Evidence-Based Practice Process Assessment Scale

Therapists' Knowledge of Evidence-Based Practice: Differential Definitions, Measurement, and Influence on Self-Reported Practice

In recent years, the dissemination and implementation of evidence-based practice (EBP) has been at the forefront of efforts to improve the quality of services delivered in youth mental health systems (Becker, Nakamura, Young, & Chorpita, 2009; Callaghan, 2001; Chorpita & Regan, 2009; Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000). This effort is due in part to research indicating that youth often do not receive treatment informed by extant treatment outcome literature (Daleiden, Lee, & Tolman, 2004; Kazdin & Blase, 2011; Sheehan, Walrath, & Holden, 2007; Stewart & Chambless, 2007; Weersing, Weisz, & Donenberg, 2002; Weisz, Jensen-Doss, & Hawley, 2006). Given the gap between EBP and actual care, many efforts have and continue to focus on identifying barriers and facilitators of dissemination and implementation.

Several researchers have looked to the interdisciplinary literature to develop EBP dissemination and implementation theories to help guide efforts. For example, applying Rogers' (2003) diffusion of innovations theory, some researchers have hypothesized that therapists must possess adequate knowledge of and favorable attitudes toward EBP in order to adopt them (Aarons, 2004; Addis & Krasnow, 2000; Fixsen et al., 2005; Nakamura et al., 2011). Over time, as more researchers began to focus on dissemination and implementation science (DIS), theoretical frameworks specific to EBP have begun to emerge (Fixsen et al., 2005; Glisson & Schoenwald, 2005; Prochaska & Velicer, 1997; Wandersman et al., 2008). In an effort to condense numerous dissemination and implementation theories across a variety of disciplines, Damschroder and colleagues (2009) created the Consolidated Framework for Implementation Research (CFIR). The CFIR is a synthesis of existing DIS theories that highlights five major

domains (i.e., Intervention Characteristics, Outer Setting, Inner Setting, Individual Characteristics, and Process) and 39 constructs nested within those domains. Important to the current study, the Individual Characteristics domain contains the sub-domains of knowledge and beliefs, attitudes, self-efficacy, individual stage of change, individual identification with an organization, and other personal attributes. Although empirical investigations specifically examining the CFIR's overall structure have yet to emerge, numerous EBP-related dissemination and implementation studies have separately examined one or more of its domains and sub-domains (Amodeo et al., 2011; Fixsen et al., 2005; Nakamura et al., 2011; Nelson & Steele, 2008; Shafran et al., 2009). Specifically related to the Individual Characteristics domain, therapists' EBP attitudinal and knowledge measures have been developed (Aarons, 2004; Borntrager et al., 2009; Stumpf et al., 2009) and studied in community mental health settings (Izmirian & Nakamura, 2015; Lim et al., 2012; Nakamura et al., 2011; Okamura et al., 2014). Research in this area tends to suggest that therapists' general knowledge (Nakamura et al., 2011), beliefs about, and training in the effective use of EBP (Borntrager et al., 2009; Shafran et al., 2009) are common moderators in EBP DIS.

Therapist Characteristics and EBP Use

Numerous investigations have focused on specific therapist characteristics associated with EBP use in order to hopefully facilitate effective dissemination efforts (see Table 1). The 13 studies identified and reviewed included: (a) empirical investigations with (b) clear definitions of EBP use, that (c) measured attitudes and/or knowledge, and (d) used analyses which examined variance accounted for regarding EBP use (e.g., linear regression) (Bearman et al., 2013; Becker, Smith, & Jensen-Doss, 2013; Beidas et al., 2012; Beidas, Edmunds, Marcus, & Kendall; 2012; Brookman-Frazee et al., 2010; Harned, Dimeff, Woodcock, & Contreras, 2013; Higa-McMillan

et al., 2014; Kolko et al., 2009; Leathers & Strand, 2013; Lewis & Simons, 2011; Lopez, Osterberg, Jensen-Doss, & Rae, 2010; Nelson & Steele, 2008). Therapist characteristics from these studies included EBP knowledge and attitudes, and therapist demographic variables such as age, sex, ethnicity, theoretical orientation, degree, professional specialty, training, and experience. The results of these studies as they relate to therapist knowledge, attitudes, and demographic variables are presented below.

Knowledge. Before summarizing the findings related to EBP knowledge, it is important to note that the concept of EBP knowledge can be complicated. When reviewing the extant literature for youth mental health therapist knowledge, it appears that knowledge has been conceptualized in at least two ways thus far (i.e., general awareness and how-to knowledge; Higa & Chorpita, 2007); both of which also depend on how the very construct of EBP is defined.

Defining EBP. Thus far, there are at least three major ways of defining EBP, including (a) formal and well-adopted guidelines for specific brand-named and manualized treatments (Chambless & Hollon, 1998), (b) identification of therapeutic elements common across those brand-named manualized protocols (Chorpita, Weisz, & Daleiden, 2005), and (c) a cyclical decision-making paradigm utilizing empirical literature, case-specific data, and outcome monitoring (Hunsley & Mash, 2007; Jensen-Doss & Hawley, 2010; Luebbe et al., 2007; Rubin & Parrish, 2010).

The first EBP definition noted above is the foundational and most-often cited one within the literature, and it aligns with guidelines for empirically supported treatments (ESTs; Chambless & Hollon, 1998). Over 15 years ago, Chambless and Hollon (1998) pioneered efforts for identifying ESTs and put forth a leveling system based upon methodological rigor and an emphasis on efficacy. This first-wave effort for identifying ESTs has spawned the creation of

many similar initiative and practice lists with identified ESTs (e.g., Substance Abuse and Mental Health Administration's National Registry for Evidence-Based Programs and Practices; http://nrepp.samhsa.gov/) that may aid therapists in identifying the ESTs for their clients. Kazdin (2008) noted that ESTs are different from EBPs in that ESTs refer to clinical innovations that have been tested for efficacy, while EBPs refer to broader clinical practice using the best evidence and client-specific considerations. Classic EST paradigms have sometimes received numerous criticisms along efficacy, effectiveness, and dissemination and implementation parameters. For example, an often-cited criticism as related to therapists' attitudes towards these treatments center on their attitudes towards treatment manualization (Herschell, Kolko, Baumann, & Davis, 2010).

The second method by which EBP has come to be conceptualized arose partially in response to problems with a potential over-abundance of manualized approaches from which therapists can choose from when deciding to utilize a manual. For example, within the problem area of disruptive behavior, a quick Amazon search at the time this paper was written lists 410 manuals related to disruptive behavior. In an effort to help address this type of problem, Chorpita, Daleiden, and Weisz (2005) introduced the distillation and matching model (i.e., now more commonly referred to as a 'common elements' approach) for summarizing and leveraging the youth treatment outcome literature. Specifically, when clustered by youth problem area, this method distills treatment manuals into techniques common across empirically supported study groups. For example, the technique of Exposure would be considered a common element of Anxiety/Avoidance treatment in that it is present in 85% (n = 98) of the 115 EBP study groups for Anxiety/Avoidance (PracticeWise, LLC, 2013). In their most recent published update of the treatment outcome literature, Chorpita and colleagues (2011) coded over 600 treatment study

groups for a number of youth problem areas such as Anxiety/Avoidance and Disruptive Behavior. The common elements approach has been utilized for helping with practice monitoring and feedback purposes by the State of Hawai‘i Department of Health (see CAMHD, 2004; Chorpita & Daleiden, 2007; Chorpita & Daleiden, 2009; Higa-McMillan, Kimhan Powell, Daleiden, & Mueller, 2011), an infrastructural lens for studying treatment as usual processes (Nakamura, Higa-McMillan, Okamura, & Shimabukuro, 2011; Orimoto et al., 2012; Orimoto et al., 2013), and informing modularized treatment approaches (Chorpita, 2007; Chorpita & Weisz, 2009).

The third EBP approach is based largely out of assessment and case conceptualization, and characterizes EBP as a decision-making process (Hunsley & Mash, 2007; Jensen-Doss & Hawley, 2011; Luebbe et al., 2007; Rubin & Parrish, 2010). In an effort to begin studying EBP decision-making in social workers, Rubin and Parrish (2010) coined the term "EBP process" which they define as "formulating an EBP question; searching for studies providing evidence about that question; critically appraising the evidence; integrating the best available evidence with their practice expertise, practice setting, and awareness of idiosyncratic client characteristics and preferences to make the best practice decision; and then monitoring the outcome of the practice decision (Gibbs & Gambrill, 2002; Sackett et al., 1996)" (p. 630, Rubin & Parrish, 2010a). Their definition was based on the evidence-based medicine model (Sackett et al., 2000) and is not limited to the area of social work. The American Psychological Association Presidential Task Force on Evidence-Based Practice (2006) authored a similar policy statement indicating that the best training of scientist-practitioners should integrate research evidence, clinical expertise, and patient preferences. Furthermore, Luebbe and colleagues (2007) also noted that "EBP in Psychology" is a *method* of finding and evaluating research evidence, integrating

idiographic clinical expertise and patient preferences, and monitoring outcomes throughout treatment. This third EBP definition partially addresses the concerns of ESTs, has been used as a formal definition for EBP in previous psychology-related DIS studies (Herschell, Kolko, Baumann, & Davis, 2010; Kazdin, 2008), and works in conjunction with classic EBP and EST definitions.

Defining EBP knowledge. As mentioned earlier, knowledge studies centered on the three EBP definitions presented above have been emerging (Beidas & Kendall, 2010; Nakamura et al., 2011; Okamura et al., 2014; Rubin & Parrish, 2010). However, drawing penetrating conclusions from these investigations can be difficult because of the variability in the literature with regard to the *type* of knowledge being assessed. EBP *general awareness* knowledge refers to a therapist's familiarity with an EBP (Higa & Chorpita, 2007) and measurement is typically done through paper and pencil surveys (Beidas & Kendall, 2010). Within the classic EST definition paradigm, a therapist would be asked if a particular treatment approach (e.g., Coping Cat; Kendall, 1994) is considered evidence-based. Regarding the common elements EBP definition, a therapist would be asked if Exposure is considered to be derived from the evidence-base for one or more problem areas such as Anxiety/Avoidance. Finally, within the EBP process definition, a therapist could be asked if searching the extant literature to address a problem is considered to be a step in the evidence-based practice process.

In contrast (and not the focus of the current study), EBP *how-to* knowledge refers to how well a therapist can adequately administer an EBP (e.g., achieving fidelity compared to some sort of criterion for technique delivery) and measurement is typically done through idiographic and time-intensive coding schemas (Beidas & Kendall, 2010). Within the first and classic EST definition, therapists' behaviors could be scored with regard to adherence to a specific EBP

manual (e.g., all sessions of Coping Cat). With regard to the common elements EBP definition, therapists' behaviors could be scored for adherence to steps or processes associated with Exposure in a given treatment session (Nakamura, Selbo-Bruns, Okamura, Chang, Slavin, & Shimabukuro, 2014). Finally, concerning the EBP process definition, therapists could be evaluated on the extent to which they effectively search, find, and apply resources in the extant literature.

In summary, EBP definitions and the way knowledge is conceptualized are important factors to consider when understanding their relationships with EBP use. For example, a therapist's general awareness of existing search engines for EBP (i.e., EBP process knowledge) may not successfully predict the use of the Coping Cat manual in everyday practice. Acknowledging this variability for conceptualizing EBP and EBP knowledge, the paper now turns to the literature in this area and frames findings within the architecture discussed above.

Influence of EBP knowledge on use. Of the five studies that examined knowledge and EBP use (Beidas et al., 2012; Beidas, Edmunds, Marcus, & Kendall, 2012; Harned, Dimeff, Woodcock, & Contreras, 2013; Higa-McMillan et al., 2014; Leathers & Strand, 2013), two found significant relationships between EBP knowledge and use. Leathers & Strand (2013) used the Knowledge of Evidence-Based Services Questionnaire (KEBSQ; Stumpf et al., 2009), a well-studied measure of youth EBP knowledge, and found that an increase in knowledge (common elements definition, general awareness type) was significantly related to use of an online EBP resource. In contrast, Harned and colleagues (2013) found that greater self-reported knowledge (classic definition, how-to type) of an Exposure protocol (Behavioral Tech, LLC, 1996) led to less frequent use in their randomized controlled Exposure therapy dissemination trial. Beidas et al. (2012a) and Beidas et al. (2012b) used the same idiographic measure of

therapist Exposure knowledge (classic definition, general awareness and how-to types) and did not find any significant relationships with self-reported EBP use. Consistent with Beidas and colleagues (2012), Higa-McMillan and colleagues (2014) measured knowledge using the KEBSQ (common elements definition, general awareness type) and did not find a significant relationship with self-reported EBP use.

Taken all together, the results across studies that examine therapists' awareness and how-to knowledge are mixed with regard to the knowledge-behavior relationship (Beidas et al., 2012; Beidas et al., 2012; Harned et al., 2013). Moreover, using a total knowledge score of one type of EBP knowledge (i.e., general awareness) based upon a single EBP definition (i.e., common elements approach), has produced mixed findings (Higa-McMillan et al., 2014; Leathers & Strand, 2013). Furthermore, no studies to date have examined the extent to which EBP process knowledge predicts self-reported EBP use in the mental health field. Carefully defining EBP and its measurement pertaining to knowledge may aid our overall field's efforts for EBP dissemination and implementation. For example, the author speculates that it may be more important for a therapist to have adequate knowledge of the EBP process if she is only using one treatment manual (e.g., Multisystemic therapy) in her day-to-day practice. However, therapists that see a wide range of youth emotional and behavioral concerns may need varying types of knowledge depending on the type of client they are seeing. Of importance for the current study, the issue at hand becomes trying to elucidate the relationships between these various EBP knowledge definitions as they relate to therapists' self-reported practice behaviors at a discrete practice element level.

Attitudes. Of the 13 studies examining therapist characteristics and EBP use, nine included measures of attitudes (Bearman et al., 2013; Becker, Smith, & Jensen-Doss, 2013;

Beidas et al., 2012; Harned, Dimeff, Woodcock, & Contreras, 2013; Higa-McMillan et al., 2014; Kolko et al., 2009; Leathers & Strand, 2013; Lewis & Simons, 2011; Nelson & Steele, 2008), with varying definitions of EBP use and measurement of EBP attitudes. Their results varied, with six of the nine studies indicating a significant positive relationship between EBP attitudes and use. The most commonly used measure was the Evidence-Based Practice Attitudes Scale (EBPAS; Aarons, 2004).

In an effort to replicate Addis & Krasnow's (2000) seminal work for examining attitudes toward treatment manuals, Becker, Smith, & Jensen-Doss (2013) surveyed 734 practicing therapists identified through various professional associations in the disciplines of mental health counseling, social work, and marriage and family therapy. Their results indicated that higher scores on the EBPAS Openness scale (i.e., therapists' openness to use EBP in their practice) predicted greater likelihood of manual use, as measured by a respondents' choice of often, sometimes, and never to a question regarding the use of treatment manuals in their practice. Consistent with these findings, Beidas and colleagues (2012) found that greater scores on the EBPAS Appeal (i.e., therapists' attitudes toward the appeal of EBP) and Openness subscales and lower scores on the Divergence (i.e., less favorable EBP attitudes) subscale predicted improvement in adherence to self-reported exposure in 17 school mental health providers. Additionally, Leathers and Strand (2013) noted that more favorable EBPAS attitudes were associated with greater use of an online EBP resource for 18 field instructors in a randomized controlled trial.

Further studies using other measures of EBP attitudes also found significant relationships with EBP use. Kolko and colleagues (2009) used the same attitudes questionnaire from Addis & Krasnow's (2000) study with 401 community-based practitioners and found that positive

attitudes predicted greater use of self-reported graduated exposure on a standardized measure of therapy behaviors. Harned and colleagues (2013) noted that for 181 therapists participating in a randomized controlled dissemination trial for exposure therapy, negative attitudes, measured by the Attitudes Toward Exposure Therapy scale (Harned et al., 2011), predicted less proficiency in structured role plays applying exposure. Nelson & Steele (2008) surveyed 214 mental health practitioners and asked them how often they use EBP in their clinical work and assessed attitudes via questions related to therapists' views on treatment research. They found that when controlling for theoretical orientation and clinical setting, therapists' attitudes predicted 21.3% of the variance for EBP use. Moreover, when prior EBP experience and openness of the therapists' clinical setting to EBP were included in the model, positive attitudes evidenced the strongest relationship with EBP use (Nelson & Steele, 2008).

Contrary to the collective findings above, Bearman and colleagues (2013) found that attitudes, measured by the EBPAS, did not significantly influence their use of EBP in a large, multi-site randomized controlled trial with 57 therapists. Higa-McMillan and colleagues (2014) also did not find a significant relationship between EBPAS attitudes and EBP use in their analyses of 74 therapists. Furthermore, Lewis & Simons (2011) used the Modified Practice Attitudes Scale (Borntrager et al., 2009) which was adapted from the EBPAS, and found no significant relationships between attitudes and self-reported use of CBT in 24 therapists' private practice. Although only speculative at this time, it is worth noting that these differences in findings concerning the attitude-practice relationship may be related to how investigators defined attitudes, EBP usage, and other key variables of interest in their studies. For example, in comparison to the studies that found positive attitude-EBP use relationships, these three studies specifically defined EBP (e.g., common elements, CBT) and had smaller sample sizes. However,

taken as a whole, the studies above suggest that therapists' attitudes toward EBP are significantly and positively related to EBP usage, and that more research in this area could better our understanding of the relationship between these constructs.

Therapist demographic variables. In addition to EBP knowledge and attitudes, many studies included therapist demographic variables in their investigative efforts for examining EBP usage. Most notably, theoretical orientation was examined in eight of the 13 studies; age, sex, experience, degree, and training were examined in five studies; ethnicity was examined in three studies; and professional discipline was examined in three studies. Of the eight studies that examined therapist self-reported theoretical orientation and EBP use (Bearman et al., 2013; Becker, Smith, & Jensen-Doss, 2013; Brookman-Frazee et al., 2010; Harned, Dimeff, Woodcock, & Contreras, 2013; Higa-McMillan et al., 2014; Kolko et al., 2009; Lewis & Simons, 2011 Nelson & Steele, 2008), four found statistically significant results for this relationship. Therapists with a cognitive-behavioral or behavioral orientation had a greater likelihood of self-reported manual use (Becker, Smith, & Jensen-Doss, 2013), greater adherence to EBP protocols (Brookman-Frazee et al., 2010), and greater self-reported use of EBP (Nelson & Steele, 2008). Eclectic theoretical orientation was also related to less self-reported use of practices derived from the evidence-base (Higa-McMillan et al., 2014). However, theoretical orientation did not influence therapist use of an EBP suggested by their supervisor from previous supervision meetings as measured by a consultation record (Bearman et al., 2013; Ward et al., 2013), therapist self-reported use of exposure and clinical proficiency in a structured role-play (Harned, Dimeff, Woodcock, & Contreras, 2013), nor self-reported use of graduated exposure (Kolko et al., 2009). These mixed findings may indicate that further research is needed to understand the effects of therapist theoretical orientation on self-reported EBP use.

Additionally, older age was associated with less use of treatment manuals (Becker, Smith, & Jensen-Doss, 2013) and moderated the effect of using active training techniques (e.g., modeling) with therapist and supervisor concordance on EBP (Bearman et al., 2013). More specifically, older therapists were more likely to use a treatment technique in a subsequent session with a youth if they modeled or role-played it in a previous supervision meeting (Bearman et al., 2013). Consistent with this finding, fewer months in clinical practice predicted better adherence to parent-targeted EBP protocols (Brookman-Frazee et al., 2010). Regarding academic degree, therapists with doctoral level degrees reported the most frequent use of exposure as compared to Master and Bachelor level therapists (Harned et al., 2013). Previous experience in parent training was significantly related to an increase in the use of EBP (Lopez, Osterberg, Jensen-Doss, & Rae, 2010) and taking a class in EBP significantly predicted EBP use (Nelson & Steele, 2008). In another study, Higa-McMillan and colleagues (2014) found that therapists' who endorsed a Psychology or Psychiatry professional specialty also reported using more practices derived from the evidence-base than those claiming Social Work in a group of community mental health practitioners. In summary, it appears that a number of therapists' characteristics may influence EBP use, such as theoretical orientation, age, degree, professional specialty, and clinical experience. More specifically, it seems as though cognitive-behavioral or behavioral theoretical orientation, younger age, a doctoral degree, Psychology or Psychiatry professional specialty, and fewer years of clinical experience may positively influence EBP use. Further research should continue to examine these demographic variables as they relate to therapists' knowledge of and attitudes toward EBP.

The Current Study

Given the general lack of EBP use in usual care (Daleiden, Lee, & Tolman, 2004; Kazdin & Blasé, 2011; Sheehan, Walrath, & Holden, 2007; Stewart & Chambless, 2007; Weersing, Weisz, & Donenberg, 2002; Weisz, Jensen-Doss, & Hawley, 2006) and continued efforts for strengthening the bridge between science and practice (Becker, Nakamura, Young, & Chorpita, 2009; Callaghan, 2001; Chorpita & Regan, 2009; Fixsen et al., 2005; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000), innovative methodologies for conceptualizing EBP (Chorpita, Daleiden, & Weisz, 2005; Chorpita et al., 2011) and theories to aid in dissemination and implementation have emerged (Damschroder et al., 2009; Fixsen et al., 2005; Glisson & Schoenwald, 2005; Prochaska & Velicer, 1997; Wandersman et al., 2008). These theories often hypothesize the importance of therapist characteristics as moderators of EBP adoption (Damschroder et al., 2009).

Research has found that therapist-level characteristics vary in their ability to predict therapist EBP use. Knowledge was examined in only five studies, and they found a significantly positive (Leathers & Strand, 2013) and negative (Harned et al., 2013) finding between EBP knowledge and use. Attitudes were the most widely studied construct, with a majority of studies suggesting significant and positive relationships between EBP attitudes and usage (Becker, Smith, & Jensen-Doss, 2013; Beidas et al., 2012; Kolko et al., 2009; Leathers & Strand, 2013; Nelson & Steele, 2008). These findings combined with the broader DIS literature may suggest that the way in which EBP is defined and knowledge is measured are important factors for consideration when studying the relationship between knowledge and practice. Additionally, therapists' theoretical orientation, age, clinical training, professional specialty, and degree also appear to have significant relationships with use of EBP. However, only one study has examined

the interaction of therapist attitudes and previous training on EBP use (Nelson & Steele, 2008) and their results are limited due to the idiographic measurement of those variables.

Studying the relationships between therapist attitudes, knowledge, and other demographic variables with EBP use therefore seems an important endeavor for aiding therapist EBP adoption behaviors. Although established measures of therapist attitudes toward and knowledge of EBP have been well-documented (Aarons, 2004; Aarons & Sawitzky, 2006; Aarons & Palinkas, 2007; Aarons et al., 2010; Borntrager et al., 2009; Stumpf et al. 2009) and psychometrically tested (Nakamura et al., 2011; Okamura et al., 2014), their relationships to EBP use seems to vary according to how EBP are *defined* and knowledge is *measured*. Furthermore, there has been no examination of therapists' process knowledge alone or in addition to other knowledge, attitudes, and demographic variables together.

The current study is an examination of the influence of therapists' EBP knowledge, attitudes, and demographic variables on self-reported use of EBP. The major aim of the study was to determine the extent to which therapists' characteristics (i.e., EBP attitudes, knowledge, and demographic variables) influence EBP use, with careful attention to EBP definition and knowledge measurement. Given that this was the first study to examine varying definitions and measurement of knowledge, especially process knowledge, no specific a priori hypotheses were given. However, it was hypothesized that in general, higher knowledge score would significantly and positively influence EBP use. This relationship was examined in general awareness measurement of both practice elements (hypothesis one) and process type (hypothesis two) knowledge. With regard to attitudes, it was hypothesized that positive attitudes toward EBP (hypothesis three) would significantly relate to more EBP use. Furthermore, it was hypothesized that therapist demographic variables, such as theoretical orientation, age, degree, professional

specialty, and clinical experience, would also influence EBP use. More specifically, cognitive-behavioral or behavioral theoretical orientation (hypothesis four), younger age (hypothesis five), a doctoral degree (hypothesis six), Psychology/Psychiatry professional specialty (hypothesis seven), and fewer years of clinical training (hypothesis eight) would relate to more EBP use.

Method

System of Care

Intensive in-home therapists from the State of Hawai‘i’s Child and Adolescent Mental Health Division (CAMHD) service system were recruited for participation from January to August 2015. CAMHD provides services in various levels of care including outpatient, intensive in-home, community-based foster homes, group homes, residential treatment facilities, and emergency services for youth receiving public mental health services in the State of Hawaii. CAMHD adheres to Child and Adolescent Service System Program principles (Stroul & Friedman, 1986), and previous work has empirically suggested adherence to the principle of least restrictive environment utilization, such that most youth entering this system do so at the intensive in-home level (Hill, Selbo-Bruns, & Nakamura, 2013). Therapists, both licensed or unlicensed, are contracted through private agencies within the State of Hawai‘i as Qualified Mental Health Professionals, Mental Health Professionals, Teachers in the Community, and Paraprofessionals. Eight intensive in-home agencies were contacted and seven (87.5%) of the eight agreed to participate in the study. One (12.5%) of these seven initially agreeing agencies did not respond to five subsequent coordination emails and did not participate in the study. The final sample comprised of six (75%) CAMHD intensive-in home contracted provider agencies. Of note, two of the participating six provider agencies specialized in the delivery of

Multisystemic therapy (MST; Henggeler et al., 2009), a heavily researched and empirically supported treatment for youth delinquency.

Participants

The data in this study concerned two types of participants: therapists and youth. Therapists within contracted provider agencies at the intensive in-home level of care were recruited to participate in the study. Within the six participating intensive in-home contracted provider agencies, there was a total of 119 therapists employed (as reported by individual supervisors). Eighty-four (70.6%) of the 119 therapists were sampled across the six agencies, and 62 (73.8%) participated in the study (i.e., were present during recruitment and/or expressed interest in the study, and signed the consent form and completed the measures). After accounting for missing data (see Data Analytic Strategy below), 58 (93.6%) of the 62 therapists had completed measures usable for the main analyses. Twelve (20.7%) of the 58 therapists did not have corresponding practice data, likely due to submission being done by a supervisor or another therapist. Therefore, the final sample was 46 (74.2% of the total participating, and 38.7% of the 119 potentially available across the six agencies) intensive in-home therapists. Therapists' age ranged from 24 to 67 (M = 38.42, SD = 10.01), 73.9% (n = 34) were female, and their primary ethnicities reported were: White (n = 16, 37.2%), Native Hawaiian or Pacific Islander (n = 14, 32.6%), Asian (n = 7, 16.3%), Hispanic or Latino (n = 3, 7%), Alaska Native or American Indian (n = 1, 2.3%), Other (n = 1, 2.3%), and Unknown (n = 1, 2.3%). Three (7%) therapists did not report a primary ethnicity. Therapists came from diverse clinical backgrounds (see Table 2), had an average of 4.68 (SD = 3.43) years of clinical training, 6.5 (SD = 5.63) years of full time experience, an active caseload of 7.6 (SD = 5.75), and received 5.42 (SD = 2.92) supervision hours per month.

Therapists' theoretical orientation (see Table 2) was assessed by their endorsement of: (a) Behavioral, (b) Cognitive or Cognitive-Behavioral, (c) Eclectic, (d) Existential, (e) Humanistic, (f) Psychoanalytic, (g) Systems, and (h) Other. Therapists' responses to the Other fill-in text included: "Dialectical behavior therapy," "trauma-focused/emotion-focused," "DBI/MI (3rd wave CBT)," "exposure," "TFCBT," and "play therapy." The number of theoretical orientations ranged from one (n = 3, 6.5%) to eight (n = 2, 4.3%), with the largest amount of therapists endorsing three (n = 12, 26.1%) theoretical orientations.

Youth demographic and diagnostic information was examined from the 46 participating therapists' caseloads (described below in Procedure). Caregivers of youth who receive services from CAMHD sign an informed consent for the use of data for research purposes (see Appendix A) which is compliant with the Health Insurance Portability and Accountability Act and Family Educational Rights and Privacy Act. In total, 472 youth were served by the 46 therapists for the study period, with ages that ranged from 3.52 to 21.73 (*M* = 14.25, *SD* = 3.57). Fifty-nine percent (n = 282) of youth were male and 88.1% (n = 416) were multiethnic (i.e., reported more than one ethnicity). Unfortunately, youth's primary ethnicity is not assessed within CAMHD. However, broad ethnic categories are assessed and the sample was 56.4% (n = 266) White, 53.4% (n = 252) Pacific Islander, 48.3% (n = 228) Asian, 11.2% (n = 53) Native American, 8.1% (n = 38) Black, 7.8% (n = 37) Unknown, and 4.2% (n = 20) Other. Youth presented with a wide array of therapist-reported diagnoses (see Table 3) and 26.7% (n = 126) had one diagnosis, 35.4% (n = 167) had two diagnoses, and 35.0% (n = 165) had three diagnoses, and 3.0% (n = 14) had no diagnosis. These participants were similar to youth from samples utilized in other CAMHD studies (e.g., predominantly disruptive behavior disordered teenage males; Higa-McMillan et al., 2014; Love et al., 2010; Orimoto et al., 2013).

Measures

Evidence-Based Practice Attitudes Scale-50 (EBPAS-50; Aarons, 2004; Aarons, Cafri, Lugo, & Sawitzky, 2012; Aarons & Sawitzky, 2006, see Appendix B**).** The EBPAS-50 is a 50 item measure of therapist attitudes toward EBP. Participants respond on a five-point Likert-scale the extent to which they agree with a particular statement, with zero indicating 'not at all' to four indicating 'to a very great extent.' Average scores within the total and subscales are computed, and they range from 0 to 4, with higher scores indicating more favorable attitudes. The original four scales of the EBPAS (Aarons, 2004) were retained, and include: (a) appeal—appeal of EBP, (b) requirements—whether a provider would adopt an EBP if required by their organization, supervisor, or state, (c) openness—openness to trying EBP, and (d) divergence—unfavorable attitudes toward EBP (the divergence scale is reversed scored for creating the total scale score). In his study of 322 clinicians, Aarons (2004) found evidence for the original measure's factor structure and good internal consistency for these scales, with Cronbach's alphas ranging from .77 for the total to .90 for the requirements subscale.

The EBPAS was revised in 2012 to reflect updated literature in the area of dissemination, building upon focus groups with mental health researchers, program managers, and clinicians to identify potential domains of barriers to implementation (Aarons, Cafri, Lugo, & Sawitzky, 2012). The EBPAS-50 includes additional attitudes toward (e) limitations—perceived shortcomings of EBP, (f) fit—therapist perception of EBP fit with current views and client population, (g) monitoring—having therapists' work monitored throughout treatment, (h) competence—therapists' satisfaction related to her therapy skills, (i) burden—therapist imposition of learning and adopting EBP, (j) job security—therapist employment is related to EBP use, (k) organizational support—therapist received support related to learning new EBP,

and (l) feedback—therapist is given feedback on performance. Aarons and colleagues (2012) found evidence for these additional factors and good internal consistency with Cronbach's alphas ranging from .77 for the burden subscale to .92 for the limitations subscale in a sample of 420 community therapists. Nunnally (1978) stated that alpha values over .70 are considered to be within an acceptable range. Internal consistency for the current study was $\alpha_{Feedback} = .92$, $\alpha_{Limitations} = .92$, $\alpha_{Job\ Security} = .90$, $\alpha_{Total} = .88$, $\alpha_{Fit} = .84$, $\alpha_{Requirements} = .83$, $\alpha_{Monitoring} = .82$, $\alpha_{Organization} = .82$, $\alpha_{Burden} = .77$, $\alpha_{Appeal} = .64$, $\alpha_{Openness} = .63$, $\alpha_{Divergence} = .73$, $\alpha_{Competence} = .55$.

Knowledge of Evidence Based Services Questionnaire-Revised (KEBSQ; Stumpf et al., 2009; see Appendix C**).** The KEBSQ is comprised of 40 items, each of which assesses knowledge of practices derived and not derived from the evidence-base for the youth problem areas of: Anxious/Avoidant (A), Depressed/Withdrawn (D), Disruptive Behavior (B), and Attention/Hyperactivity (H). Respondents are asked to circle all problem areas for which a particular type of practice element is considered to be derived from the evidence-base. Each individual item is then scored on a scale from zero to four, with correctly endorsed and omitted responses per problem area each receiving one point. Total possible scores on the KEBSQ can range from zero to 160. Additionally, the KEBSQ items are also amenable to problem area specific practice element knowledge examination. For example, in addition to an overall score for Exposure, therapists' awareness knowledge of Exposure for Anxiety/Avoidance can also be assessed via the KEBSQ (Lim et al., 2012). This level of measurement was of particular importance to the current study given the emphasis on careful EBP definition and knowledge measurement.

The KEBSQ is a particularly unique and comprehensive way of assessing clinician knowledge due to the dynamic structure of its scoring key. For example, when the KEBSQ was

originally developed, Stumpf et al. (2009) used a comprehensive evidence-based practice report (CAMHD, 2004) to inform the answer key. For the current study, an updated scoring key was developed based on the latest findings in the youth treatment outcome literature (PracticeWise, LLC, 2015). Stumpf et al. (2009) have demonstrated support for the basic psychometric properties of the measure through test-retest and discriminate validity between community therapists and graduate students. The factor structure of the KEBSQ has also been examined (Okamura et al., 2014) which revealed factors of High Extent & Coverage, Low Extent & Coverage, and High Extent & Low Coverage. When naming these factors, Okamura et al. (2014) defined the term Extent as the degree to which each practice was derived from the evidence-base, and Coverage as the degree to which an individual practice was considered to be derived from the evidence-base across the four major problem areas. For example, the first factor High Extent & Coverage indicates that these practices are frequently endorsed as being derived from the evidence-base while at the same time covering multiple problem areas. These researchers also found significant relationships between these factors and EBP attitudes.

However, therapists have previously reported that the KEBSQ is time-consuming and difficult to fill out (Weist et al., 2009), and visual inspection of missing KEBSQ data has shown increases from the first to second page of the measure (Okamura et al., 2014). In order to reduce the time and effort in completing the measure, select items from the KEBSQ were chosen. First the PracticeWise searchable database (PracticeWise, 2014) was consulted to examine the PEs within Level 1 treatment study groups for the four KEBSQ problem areas (i.e., Anxiety/Avoidance, Depressed/Withdrawn, Disruptive Behavior, and Attention/Hyperactivity). This classification of treatment level was more conservative than the KEBSQ original study and scoring key (Stumpf et al., 2009) and additional studies examining the KEBSQ (e.g., Okamura et

al., 2014; Nakamura et al., 2012), but was chosen in order to identify PEs from treatment studies that demonstrated well-established efficacy. Next, the top five most frequently endorsed practice elements based on percentages produced by the PracticeWise searchable database (PracticeWise, 2014) was used as a starting point for measure reduction. Using this algorithm, there was overlap within the top 20 practice elements across the four problem areas. For example, Cognitive was indicated for Anxiety/Avoidance, Depressed/Withdrawn, and Disruptive Behavior (see Figure 1 for overlap). This resulted in 12 items, which helped to address the aforementioned time and burden concerns associated with the full KEBSQ measure (Nakamura et al., 2009; Weist et al., 2009) and to focus on practice elements relevant to the major four problem areas.

Therefore, of the 12 total practice elements, one (8.3%; Psychoeducation-Parent) covered all four problem areas, two (16.7%; Cognitive and Problem Solving) covered three problem areas, five (41.7%; Psychoeducation-Child, Relaxation, Praise, Tangible Rewards, and Commands) covered two problem areas, and four (33.3%; Exposure, Activity Selection, Maintenance/Relapse Prevention, and Time Out) covered one problem area. The top five practice elements for Anxiety/Avoidance were Exposure, Cognitive, Psychoeducation-Child, Relaxation, and Psychoeducation-Parent; for Depressed/Withdrawn, the elements were Cognitive, Psychoeducation-Child, Activity Selection, Maintenance/Relapse Prevention, and Problem Solving; for Disruptive Behavior, the elements were Problem Solving, Tangible Rewards, Time Out, Commands, and Psychoeducation-Parent; and for Attention/Hyperactivity, the elements were Praise, Tangible Rewards, Psychoeducation-Parent, Problem Solving, and Tangible Rewards.

These items of the KEBSQ were particularly important to the current study because of their ability to assess awareness-type knowledge of specific practice elements at the problem

area level. For example, therapists' knowledge of Exposure for the Anxiety/Avoidance problem (ranging from 0 to 1) area could be examined rather than Exposure across all four problem areas (ranging from 0 to 4), an overall KEBSQ (ranging from 0 to 160), or factor scores (ranging from 0 to 72). Internal consistency for KEBSQ items was not calculated for the current study given that item level (and not total or factor) scores were used.

Monthly Treatment Progress Summary (MTPS; CAMHD, 2005; see Appendix D and E**).** The MTPS is a therapist self-report measure of youth treatment services, including service format, setting, treatment targets, interventions used, and progress ratings. Beginning on July 1, 2006, CAMHD required a monthly MTPS for each client every month in order for organizations to receive reimbursement for services (Nakamura, Daleiden, & Mueller, 2007). CAMHD has provided trainings on completing the MTPS and annual evaluations have indicated that completion rates were near perfect when tied to billing (Keir, Jackson, Mueller, & Ku, 2011).

Therapists provide information on up to ten treatment targets (from a list of 53 predefined targets and two write-in options) and the progress ratings associated with each of these targets on a seven-point rating scale ranging from zero (Deterioration) to six (Complete Improvement). Psychometric evaluations of the MTPS treatment target section of the measure has found support for convergent and divergent validity between targets and diagnoses (Daleiden et al., 2006), and significant and expected relationships between progress ratings and two measures of clinical functioning (Nakamura et al., 2007).

The MTPS is unique because of the way therapist self-reported practice use is conceptualized. More specifically, the MTPS utilizes practice element metrics (Chorpita, Daleiden, & Weisz, 2005; Chorpita et al., 2011) to allow therapists to indicate up to 63 predefined and three written-in techniques that they used in any given reporting month for

addressing the aforementioned treatment targets. A recent study examining the factor structure of the MTPS practice elements among CAMHD providers suggested the overarching scales of behavioral management (15 practice elements), cognitive/self-coping (19 practice elements), and family interventions (13 practice elements; Orimoto et al., 2012). Furthermore, adequate test-retest stability, inter-rater reliability, and validity of self-reported practices have been established (Borntrager, Chorpita, Orimoto, Love, & Mueller, 2013; Chorpita et al., 2005; Daleiden et al., 2006).

Practitioner Background Questionnaire (unpublished measure; see Appendix F**).** Therapists also provided their (a) age, (b) sex, (c) agency/organization, (d) work zip code, (e) race/ethnicity, (f) racial identity, (g) highest degree, (h) date of most advanced degree, (i) licensure status, (j) professional specialty, (k) primary clinical setting, (l) professional activities, (m) theoretical orientation, (n) years of formal training, (o) years of full time clinical experience, (p) continuing education, (q) active caseload, and (r) supervision hours.

Revised Evidence-Based Practice Process Assessment Scale (R-EBPPAS; Rubin & Parrish, 2011; see Appendix G**).** The R-EBPPAS is a 45 item measure that assesses a therapists' perceptions of the EBP process. Rubin & Parrish (2010) define the EBP process as five steps including: (a) formulating a practice question that can be answered by searching for research evidence, (b) tracking down the best research evidence to answer the question, (c) critically appraising the evidence, (d) integrating the critical appraisal with practitioner expertise and client attributes to guide your practice decision, (e) evaluating the outcomes of the practice decision. The R-EBPPAS measures therapists' familiarity/self-efficacy, attitudes, feasibility, behavioral intention, and actual behavior in the EBP process. Therapists' answer the familiarity/self-efficacy, attitudes, and feasibility scales on a five point Likert-scale from strongly disagree to

strongly agree and the behavioral intention and actual behavior scales on a five-point rating scale from never to very often.

The original EBPPAS was initially studied with 217 community therapists and demonstrated adequate reliability (α ranging from .57 to .94) and sensitivity to change following a workshop on EBP process (d = 1.60). The authors further examined the validity of the measure through a factor analysis with 511 master of social work students (Rubin & Parrish, 2011). Initial analyses revealed increased internal consistency (α ranging from .63 to .94) and the factor analysis demonstrated adequate fit for the five factors of familiarity/self-efficacy, attitudes, feasibility, intentions, and behavior after removing underperforming items. The revised EBPPAS removed six underperforming items, which increased internal consistency ($\alpha_{\text{Familiarity/Self-Efficacy}}$ = .91, $\alpha_{\text{Attitudes}}$ = .83, $\alpha_{\text{Feasibility}}$ = .73, $\alpha_{\text{Intentions}}$ = .86, α_{Behavior} = .86, α_{Total} = .94). For the current study, internal consistency of the R-EBPPAS was: α_{Total} = .94, $\alpha_{\text{Familiarity/Self-Efficacy}}$ = .92, $\alpha_{\text{Intentions}}$ = .89, α_{Behavior} = .88, $\alpha_{\text{Attitudes}}$ = .86, and $\alpha_{\text{Feasibility}}$ = .74.

Procedure

All eight CAMHD intensive in-home provider agencies and their therapists were recruited to participate in this study. Recruitment emails were sent to all provider agency leadership staff (e.g., clinical supervisors) to request a time to visit an existing supervision or staff meeting for recruitment purposes. The principal investigator attended agency meetings to provide information (e.g., description and risks of the study) and to distribute the consent forms and measures. Once therapists agreed to participate, they signed the consent form (Appendix H) and filled out the measures described above. All study-specific measures (i.e., all measures above except the MTPS which is routinely collected within the CAMHD system for feedback and support services) were randomized to minimize response bias and fatigue effects. Therapists

were reminded that their participation was voluntary and they were allowed to stop at any time. Self-addressed and stamped envelopes were provided to therapists who did not attend the meeting or were unable to complete the measures in the time allotted. Therapists were compensated with a $5 gift card to Starbucks or Target for participating in the study. Therapists' completion time for all measures was approximately 30 minutes.

A cross-section of therapists' practice data and data-limited youth information were electronically extracted from the Child and Adolescent Mental Health Management Information System by CAMHD Research and Evaluation Training team members. These data were linked to therapists' measures via their National Provider Identifier number that is used to submit their practice data each month. Therapists' voluntarily gave their National Provider Identifier number when consenting to the research study. It is important to note here that there was a chance that a supervisor or other treatment team member (that did not participate in the current study) entered MTPS reports into the CAMHD system. As such, a couple of scenarios could have occurred. First and most ideal, a participating therapist's youth MTPS reports were captured by the data pull. Second, a participating therapist and youth MTPS reports were not pulled because her data were not directly tied to her National Provider Identification number (i.e., entered by another treatment team member). Unfortunately, it would have been difficult to ascertain the direct link for each participating therapist, youth, and MTPS report included in the study. The current study's findings will be discussed in light of this limitation.

Therapists' MTPS target and practice data were included within the time frame of six months pre- (i.e., minimum of June 2014) and post-data (i.e., maximum of September 2015) collection. This time frame was chosen to limit the backward prediction of therapist variables (i.e., therapists' background, knowledge, and attitude parameters were used to predict practice

patterns; more fully explained below in the "Data Analytic Strategy" section below) while maximizing the sample and power. The 46 therapists served 472 youth with 2976 MTPS reports in the current sample. This study was approved by the University of Hawai'i at Mānoa's Committee on Human Subjects (Approval #22290) on October 15, 2014, and extended through August 27, 2016.

Data Analytic Strategy

As previously mentioned, this study sought to understand the influence of therapists' knowledge, attitudes, and demographic variables on self-reported EBP use. It was hypothesized that higher awareness of (a) practice element and (b) process knowledge, (c) more favorable attitudes, (d) having a cognitive-behavioral or behavioral theoretical orientation, (e) younger age, (f) doctoral degree, (g) Psychology/Psychiatry professional specialty, and (h) fewer years of clinical training would significantly relate to EBP use.

Defining Predictor Variables. Practice element and process awareness knowledge were measured by the KEBSQ and R-EBPPAS, respectively. Individual KEBSQ problem item by area scores were used as binary predictor variables. For example, a therapists' answer on if Exposure is derived from the evidence-base for Anxiety/Avoidance was used, with zero indicating therapists' awareness knowledge as "No" (for this example, incorrect) and one indicating "Yes" (for this example, correct). The R-EBPPAS total score was used for a metric of overall process awareness knowledge. EBP attitudes were measured by the EBPAS-50 total scale score. For both the R-EBPPAS and EBPAS-50, the mean score was used.

Therapists' demographic variables were also included as predictors. Theoretical orientation was originally assessed via multiple check boxes, with therapists indicating endorsement or non-endorsement for several non-mutually exclusive categories. Additionally,

therapists endorsed the highest degree they earned and professional specialty. These variables were coded in the following way. Therapists' theoretical orientation was coded as the presence of endorsing Behavioral or Cognitive/Cognitive-Behavioral (0 = "No," 1 = "Yes"). With regard to highest degree earned, therapists were coded as either possessing or not possessing a doctoral degree (0 = "No", 1 = "Yes"). Professional specialties were aggregated into the larger categories of Clinical Psychology/Psychiatry, Counseling Psychology, Social Work, Marriage and Family Therapy, and Substance Abuse Counseling. Therapist and youth age as well as years of clinical experience were used as continuous predictor variables.

Defining EBP use. Given the complexity of practice element distillation methodology as it relates to informing proxies for the construct of EBP use, sometime should be spent to review past research that have used these data to define EBP use. In the past few years, some researchers have developed the phrase "practices derived from the evidence-base" (PDE) as a relative definition of EBP use (Denenny & Mueller, 2012; Higa-McMillan et al., 2014; Izmirian & Nakamura, 2015; Love et al., 2010; Nakamura et al., 2011; Okamura et al., 2014; Orimoto et al., 2012). This nuanced definition reflects that practices should not be referred to as "evidence-based practice elements" because they were not tested in isolation with regard to their efficacy or effectiveness for treating childhood problems. The process of determining the extent to which or whether or not a practice element should be considered a PDE has traditionally been handled in multiple steps.

First, each practice element is determined to be a PDE based upon the frequency with which it is utilized in EBP study groups reported by PracticeWise, LLC. PracticeWise, LLC is a private organization that among other services, codes the extant youth treatment outcome literature at the practice element level (Chorpita, Daleiden, & Weisz, 2005). Twice per year, they

update their evidence-base search engine (PWEBS) based upon frequencies of practice elements making up EBP study groups, as coded from the treatment outcome literature. In this process, EBP study groups are first categorized into one of five levels that are associated with the varying degrees of empirical support (Chorpita & Daleiden, 2009). The first two levels correspond to the American Psychological Association Task Force on Promotion and Dissemination of Psychological Procedures (1995) Level 1 ("Well Established") and Level 2 ("Probably Efficacious") treatments. The third level is similar to Level 2, but includes treatments that do not have manuals. The fourth level includes treatments with little or no evidence support, and the fifth level includes treatments with no support (Chorpita & Daleiden, 2009). Next, practice element percentages are calculated within each level to determine how often they are present within EBP study groups for a given problem area. These percentages are used to determine the extent to which a practice element is derived from evidence-based study groups. Previous studies have used a varying range of PDE criteria from practices occurring in 10% of Level 2 or higher treatment study groups (cf. Nakamura et al., 2011; Okamura et al., 2014) to 30% of Level 1 treatment study groups (cf. Denenny & Mueller, 2012; Higa-McMillan et al., 2014; Love et al., 2010; Orimoto et al., 2012).

The top five (i.e., most frequent practices) PDE derived from study groups with Level 1 treatment support within the four major problem areas (i.e., Anxiety/Avoidance, Depressed/Withdrawn, Disruptive Behavior, Attention/Hyperactivity) were included in this study (see Table 4). These 12 PDEs were chosen because they had corresponding specific item level knowledge scores on the KEBSQ (see individual item selection in Methods above). PWEBS frequencies for the PDE within treatment study groups that had Level 1 support ranged from 30% to 85% in Anxiety/Avoidance, 46% to 71% in Depressed/Withdrawn, 42% to 64% in

Disruptive Behavior, and 29% to 44% in Attention/Hyperactivity study groups (see Table 4 for more detailed information). Therefore, the PDEs of interest in this study were included in at least 29% of Level 1 treatment study groups, consistent with previous PDE research (Denenny & Mueller, 2012; Higa-McMillan et al., 2014; Izmirian & Nakamura, 2015; Love et al., 2010; Orimoto et al., 2012).

The 12 practice elements in Table 4 were the focus of MTPS practice pattern study for the current investigation, which utilized the leveling methodologies adopted by PracticeWise, LLC (2015) in order to strategically identify and study the most frequent practices within EBP treatment protocol study groups. The four major problem areas of Anxiety/Avoidance, Depressed/Withdrawn, Disruptive Behavior, Attention/Hyperactivity were examined based on their corresponding treatment targets (see Figure 1). According to PWEBS, the problem area of Anxiety/Avoidance contains four treatment targets including anxiety, avoidance, phobias/fears, and shyness; the problem area of Attention/Hyperactivity contains two treatment targets including attention problems and hyperactivity; the problem area of Depressed/Withdrawn contains three treatment targets including depressed mood, grief, and suicidality; and the problem area of Disruptive Behavior contains seven treatment targets including aggression, anger, fire setting, oppositional/non-compliant behavior, runaway, sexual misconduct, and willful misconduct/delinquency (PracticeWise, LLC, 2013).

Calculating EBP use. For the current study, treatment target and practice element data from the MTPS were used to calculate therapist self-reported EBP use. Broadly speaking, EBP use was conceptualized as endorsement of a PDE in the presence of an appropriate corresponding treatment target based on problem area. That is, to what extent are therapists using any given PDE when a relevant treatment target is present? This variable was termed a predictive

"hit" noting the presence of both PDE and relevant treatment target and is consistent with a non-parametric definition of occurrence of events in real data (Heeger, 1997, Pollack, 1970). For example, the PDE of Exposure would be considered a hit if it was endorsed in the presence of the treatment target anxiety, avoidance, phobia/fears, or shyness. EBP use was examined at the therapists' monthly report level, in order to capture therapist-level behavior and focus solely on monthly decision-making processes. Each month represents an orthogonal decision-making instance for a given therapist. A dichotomous hit variable was calculated for each of the 12 PDE across all monthly MTPS reports.

Consistent with previous studies investigating PDE practice patterns within the context of selective treatment target endorsement (Denenny & Mueller, 2012; Love et al., 2010; Orimoto et al., 2012), it is noteworthy that youth comorbidity (i.e., a therapist endorsing addressing more than one problem area for a youth within a given month) adds unwanted complexity to analyses and interpretation. That is, therapists do not report PDEs for any individual targets or single problem area, but rather they endorse utilizing a list of PEs (of which some may be considered PDEs) across all treatment targets addressed for a youth within the any reporting month. For example, if a therapist endorses Exposure and Cognitive for a comorbid youth that has multiple treatment targets (e.g., phobias/fears and aggressiveness) across various problem areas (e.g., Anxiety/Avoidance and Disruptive Behavior), it is unclear which PDE was used to address which treatment target. This type of global reporting may inadvertently inflate hit rates given comorbidity between youth diagnoses. However, specification of EBP use via the predictive hit logic outlined above moves beyond endorsement of PDEs alone, and examines the context under which PDEs are used.

An additional issue noteworthy of mention for aiding nuanced understanding of the current study's methodology concerns an imbalance in treatment targets across problem areas. For example, the larger problem area of Disruptive Behavior is composed of seven treatment targets compared to that of Attention/Hyperactivity that has two treatment targets. Therefore, one could argue that a therapist may be more likely to endorse a Disruptive Behavior (7 (13.2%) of 53 MTPS treatment targets) over an Attention/Hyperactivity (2 (3.8%) of 53 MTPS treatment targets) treatment target. This imbalance is inherent within the study's design and will be discussed in light of the study's results. Furthermore, eight (66.7%) of the total 12 PDEs focused on within this study were derived from two or more problem areas (see Figure 1), suggesting their utility under comorbid circumstances.

Data preparation. Preparation of data was handled in a two-step process that determined adequate power for the multilevel statistical analyses and examined the overall structural integrity of the data (e.g., missing data and outliers).

Power. Power calculations and sample size considerations are presented below. Given the complexity of the anticipated data structure (i.e., a two level model with youth nested within therapists) and multilevel modeling procedures in general, previous studies using similar methodology were examined. As seen in Table 1, sample sizes ranged from 17 to 734 therapists for detecting significant differences in EBP use. However, many of these studies did not consider the nested nature of their data and therefore did not utilize multilevel modeling analytic strategies. Heck, Thomas, & Tabata (2013) note that when calculating power for multilevel models, sample size and the intraclass correlations (ICCs) are important considerations. They also state that when ICCs are higher on level one (i.e., youth), the power to detect effects will be lower due to homogeneity between the groups. Therefore, effects on level two (i.e., therapists)

are more sensitive to the number of groups rather than the observations within each group. Heck, Thomas, and Tabata (2013) recommend adding more level one units (i.e., youth) rather than individuals within each group (i.e., therapists) due to efficiency in estimating random coefficients that reduces the need for larger sample sizes within each group.

Missing data. Listwise deletion strategies were adopted to address missing data. Participants with over 10% of their total data missing on the KEBSQ, R-EBPPAS, and EBPAS-50 were removed from analyses (cf. Nakamura et al., 2011; Okamura et al., 2014). The number of participants with 10% of their data missing varied by measure: two (3.2%) for the EBPAS-50, three (4.8%) for the R-EBPPAS, and one (1.6%) for the KEBSQ. This listwise deletion strategy resulted in the removal of four therapists (6.45%), leaving a remaining final total therapist sample of 42. Next, tests were conducted to determine if items were Missing Completely At Random within each measure, defined as having no relationships between any of the variables and values of the missing data (Allison, 2002). Predictive Analytics SoftWare missing values analysis was used to conduct the Missing Completely At Random test (Little & Rubin, 1987), which looks for any observed and significant t-test differences between the means of the different variables. Results revealed that missing data within the EBPAS-50 (χ^2 = 294.99, *df* = 293, *p* = .46), KEBSQ (χ^2 = 56.94, *df* = 55, *p* = .40), and R-EBPPAS (χ^2 = 87.10, *df* = 88, *p* = .51) were all Missing Completely At Random. The maximum likelihood method was then used to generate values of the missing data (Little & Rubin, 1987).

Next, scale and total scores for the EBPAS-50, KEBSQ, and R-EBPPAS were calculated and examined for normality. Therapist demographic variables were also examined for normality. Standardized z-scores were calculated and any score in excess of 3.29 was considered to be an outlier (cf, Nakamura et al., 2012). One outlier was identified in the EBPAS-50 Total score (z-

score = -3.76, actual therapist mean score = 1.36). Negative transformation was conducted for the EBPAS-50 Total score. Logarithmic, inverse, and square root transformations were completed and normality was examined again. The EBPAS-50 Total score negative inverse transformation revealed a normal distribution. Main analyses were run with both the EBPAS-50 total score and its negative inverse transformation and the pattern of results was identical. Therefore, the non-transformed EBPAS-50 results are presented in order to make comparisons across studies of therapists' EBP attitudes.

Multilevel Modeling. Multilevel modeling was used with youth (level one) nested within therapists (level two) in order handle the hierarchical data structure. Time was not considered a level within the current analyses despite MTPS reports being nested within youth. This decision was made because each MTPS was considered to be an orthogonal instance under which therapists could make a choice to use PDE under the right context. That is, therapists' monthly PDE predictive hit was independent of what they had chosen to do in a previous month. Therefore, the predictive hit calculated from each MTPS was included in the analyses. Generalized linear mixed models were used to account for the different predictor variable types included within the model (e.g., dichotomous, continuous) and a categorical criterion variable. Intercept was considered as having a fixed effect and relevant variables were examined for significance.

According to Heck, Thomas, and Tabata (2012) the first step to multilevel modeling is to test the null (no predictors) model. Using the no predictors model, the variance of EBP use was partitioned out to each level of the model by calculating an intraclass correlation (ICC). An ICC for level two represents between-group homogeneity, indicating the proportion of variance from

each therapist (Heck, Thomas, & Tabata, 2013). The ICC itself represents the expected correlation between any two randomly selected clients seen by the same therapists (Hox, 2010).

Next, two generalized mixed models were conducted for each of the 12 PDE. The first model included therapist knowledge and attitudes as predictors of EBP use (see Table 7). Two measurements of knowledge were used in the model. First, practice element type, general awareness knowledge was measured via the KEBSQ. Individual PDE item by problem area answers, as determined by PWEBS, were used. For example, a therapist's answer of Exposure for the Anxiety/Avoidance problem area from the KEBSQ was included as a one ("Yes" and correct) or zero ("No" and incorrect). Second, process type, general awareness knowledge was measured via the R-EBPPAS total score (i.e., familiarity, attitudes, feasibility, intentions, and behavior scales). The EBPAS-50 total score was used to measure EBP attitudes.

The second model included therapists' knowledge and attitude variables as well as therapists' demographic variables and youth age. Table 8 describes in detail the models for each individual PDE. Demographic variables were chosen based upon previous literature, which suggested that therapists' age, theoretical orientation, degree, professional specialty, and years of clinical service influence EBP use. Additionally, therapists' months of service with youth was also included in the model. This variable was chosen in an effort to account for differences in timing and sequencing in the 12 PDE application within this community sample. For example, Maintenance/Relapse Prevention is often found near the end of Depressed/Withdrawn treatment manuals (e.g., Weisz et al., 1999). Therefore, it may be that therapists' decision to use that specific PDE depend on the current course of treatment and youth's symptoms, and inclusion of this months in treatment variable was meant to try to account for such an issue.

Furthermore, research has suggested that mental health treatment approaches are affected by client characteristics (e.g., age), depending on problem area (Love et al., 2010; Orimoto et al., 2013). For example, the specific PDEs composing practice element profiles for Disruptive Behavior vary depending on the age of youth, with parent-management strategies comprising study group protocols for younger youth and youth-targeted strategies comprising study group protocols for older youth (PracticeWise, LLC, 2015). Given the PDE level of analyses for the current study, extant literature (Chorpita & Daleiden, 2009) and PWEBS (PracticeWise, LLC, 2015) was consulted to determine which youth demographic variables influence the frequency of endorsement of PDE within study group protocols. Based on these data, youth age was added as a predictor for Problem Solving, Praise, Time Out, and Commands models. The Akaike and Bayesian Information Criterion (AIC and BIC, respectively) were examined to determine the best fitting model across Model 1 and Model 2, with lower values indicating better fit. The final model equation with all predictor variables is listed below:

$$\text{Level-one: } Y_{tij} = \pi_{0ij} + \pi_{1ij}\text{PDEHit}_{tij} + \beta_{12j}\,\text{YouthAge}_{12ij} + e_{tij}$$

$$\text{Level-two: } \pi_{0ij} = \beta_{00j} + \beta_{01j}\text{KEBSQScore}_{1ij} + \beta_{02j}\text{REBPPASScore}_{2ij} + \beta_{03j}\text{EBPAS50Score}_{3ij} + \beta_{04j}\text{TherapistAge}_{4ij} + \beta_{05j}\text{TheoreticalOrientation}_{5ij} + \beta_{06j}\text{Degree}_{6ij} + \beta_{07j}\text{ProfessionalSpecialty}_{7ij} + \beta_{08j}\text{YearsofClinicalExperience}_{8ij} + \beta_{09j}\text{MonthswithYouth}_{9ij} + r_{0ij}$$

$$\pi_{1ij} = \beta_{10j} + \beta_{11j}\text{PDEHit}_{1ij} + \beta_{12j}\,\text{YouthAge1}_{2ij} + r_{1ij}$$

The sample for each PDE model was limited to MTPS reports that contained one or more of the indicated treatment targets for that PDE's given problem area(s). For example, as seen in Figure 1, Exposure is an indicated PDE for the problem area of Anxiety/Avoidance which is comprised of the four treatment targets of anxiety, avoidance, phobia/fears, and shyness. Therefore, when running the Exposure models, the sample was restricted to MTPS reports that

contained at least one of the four treatment targets. When a PDE was indicated for more than one problem area, MTPS reports were included if therapists endorsed one or more of those problem areas' treatment targets. For example, Relaxation is an indicated PDE for the two problem areas of Anxiety/Avoidance and Depressed/Withdrawn. Therefore, when running the Relaxation model, the sample was restricted to MTPS reports that contained one or more of the following targets: anxiety, avoidance, phobia/fears, shyness, depressed mood, grief, or suicidality. KEBSQ problem area specific knowledge scores were run individually in each model. Using the example above, for Relaxation, KEBSQ Anxiety/Avoidance and Depressed/Withdrawn scores were run in independent models.

Alpha was set a .05 for interpretation of all predictors. Additionally, odds ratios (ORs) and beta coefficients (β) were examined in an effort to understand and help interpret predictors' effects across the wide array of individual PDE models. Specifically, this was done in a multi-step process. First, model outputs including *t*-values, standard errors, odds ratios, and beta coefficients for each model were visually examined for abnormalities. Next, ORs and beta coefficients were ordered by predictor variable (e.g., PDE specific awareness knowledge) across all models and their directionality was evaluated. Specifically, ORs over one and positive beta coefficient indicate an increase in PDE use for every unit increase in the predictor variable (Szumilas, 2010). Conversely, ORs below one and negative beta coefficient indicate a decrease in PDE use for every one unit decrease in the predictor variable. ORs and beta coefficient means were also calculated across all models to provide an estimate for the average effect of each predictor. Standard deviations, and minimum and maximum values were also calculated examine variability for these averaged effects.

Results

Descriptive Statistics

MTPS treatment target and practice element frequencies are presented in Tables five and six, respectively. Regarding MTPS treatment targets, 100% (n = 2976) of MTPS reports had at least one target, 93.5% (n = 2772) had two targets, 85.9% (n = 2557) had three targets, 59.5% (n = 1772) had four targets, 42.8% (n = 1274) had five targets, 24.3% (n = 722) had six targets, 16.8% (n = 499) had seven targets, 11.2% (n = 333) had eight targets, 7.3% (n =217) had nine targets, and 4.1% (n = 123) had ten targets. The Disruptive Behavior problem area was the most represented problem area, with 91.7% (n = 2728) of MTPS reports containing at least one of the seven treatment targets. The Anxiety/Avoidance problem area was represented in 31.1% (n = 926), Depressed/Withdrawn by 20.4% (n = 608), and Attention/Hyperactivity by 15.9% (n = 474) of MTPS reports within the sample. Practice elements, specifically the 12 PDE, endorsement ranged from 4.2% (n = 126) for Time Out to 52.8% (n = 1572) for Problem Solving. Specifically related to the PDE hit variable, frequencies as they related to overall practice element endorsement are presented in Table nine. As an example, the Exposure PDE was endorsed 446 times and 237 (53.1%) were endorsed in the presence of an anxiety treatment target, resulting in a "hit."

Means and standard deviations for all therapist measures are presented in Table 10 and frequencies of KEBSQ responses by problem area are presented in Table 11. Correlational analyses were run to examine any significant relationships between predictor variables in order to avoid multicollinearity within the models. Of note, degree and professional specialty were significantly correlated ($r = .37$, $p < .01$) and therapists had conceptually redundant answers for both variables. For example, the same six therapists that endorsed a doctoral level degree also endorsed a professional specialty of Clinical Psychology. Given this overlap and the risk of

multicollinearity, professional specialty was omitted from the models. Moreover, degree was significantly correlated with years of clinical training ($r = .36$, $p < .01$) and highly skewed (40 (87%) therapists endorsed Masters level degrees). Therefore, degree was also removed from the main analyses. Additionally, 93.5% (n = 43) of the sample indicated a Cognitive or Cognitive-Behavioral theoretical orientation, which limited the variance within the predictor variable. Therefore, the theoretical orientation variable was not included in the model.

The final overarching 12 models included PDE hit dependent variables (one for each of the 12 models) for Exposure, Cognitive, Psychoeducation-Child, Relaxation, Psychoeducation-Parent, Activity Selection, Maintenance/Relapse Prevention, Problem Solving, Praise, Tangible Rewards, Time Out, and Commands. Predictor variables included therapist knowledge and attitude scores for Model 1; and added the variables of therapist demographic variables of age, years of clinical training, and months with youth; and youth age for Model 2.

Multilevel Modeling

No Predictors Model. Generalized mixed models testing the no predictors model with only the intercept with PDE hit variables were conducted. For all models, intercept was significant at the .05 level. A significant intercept within logistic regression would suggest that the intercept was significantly different from an event probability of .50 (Heck, Thomas, & Tabata, 2013) and that adding predictors would better account for the more than chance findings. However, a non-significant intercept does not imply that the model's criterion variable (i.e., predictive hit) is happening just by chance and could be affected by other variables. Additionally, ICCs indicated that 39% to 55% of the PDE hit variable variance was better accounted for by additional variables on level two, within therapists (see Table 9). More specifically, ICCs were .39 for Maintenance/Relapse Prevention, .47 for Activity Selection, .50 for Exposure and Time

Out, .51 for Relaxation, .52 for Psychoeducation-Child and Commands, .53 for Tangible Rewards, .54 for Praise, and .55 for Cognitive, Psychoeducation-Parent, and Problem Solving. These ICCs suggested that anywhere from 39% to 55% of self-reported EBP use was better accounted for by therapist and youth variables. Therefore, subsequent models were performed to better partition out the variance for each PDE hit variable.

AIC and BIC. Table 12 presents AIC and BIC values for each model by PDE and corresponding KEBSQ problem area. Overall, Model 1 produced lower AIC and BIC values when compared to Model 2, suggesting that Model 1 was a better fit for these data. Heck, Thomas, & Tabata (2014) note that while choosing lower AIC and BIC values is often the rule when evaluating model fit, it is also important to consider the purpose of the study in evaluating models. Therefore, although Model 1 evidenced better fit, Model 2 fulfilled the purpose of the current study with the inclusion of all hypothesized variables.

Additionally, there were changes to both models when different KEBSQ problem area scores were included. For example, within the Cognitive Model 1, the Depressed/Withdrawn score model had a lower AIC (1288.47) and BIC (1311.36) compared to Disruptive Behavior (AIC = 1323.87 and BIC = 1346.76) and Anxiety/Avoidance (AIC = 1407.08 and BIC = 1429.97). However, the AIC and BIC differences were variable and relatively small; therefore, no subsequent interpretation of within PDE differences are given.

Model Output. Generalized mixed models results are presented in Tables 13 to 24. An example of interpreting the results table is presented below. Table 15 details the results for the Psychoeducation-Child hit model. In the first Model 1 (with KEBSQ 3A knowledge score), the intercept had a beta coefficient of -1.61 with a standard error of 2.45, a *t*-value of -0.66, and was not statistically significant with $p = .52$. This suggests that the intercept is not significantly

different from a .50 probability of a therapist endorsing Psychoeducation-Child "hit." Although tempting to interpret or discard, this non-significant intercept is important to include within the model to provide a center for the hit variable and given the previous significant intercept within the no predictors model. KEBSQ PDE specific awareness knowledge (i.e., KEBSQ 3A), process awareness knowledge (i.e., R-EBPPAS total), and attitudes (i.e., EBPAS-50 total) were entered as predictor variables. In total, there were 1161 MTPS reports included in the analyses and 71% (n = 824) had a KEBSQ specific awareness knowledge correct endorsement (shown in parentheses). The KEBSQ 3A score had a beta coefficient of 0.96 with a standard error of 0.47, a *t*-value of 2.06, and was statistically significant with $p = .05$. This finding suggests that KEBSQ awareness knowledge of Psychoeducation-Child for Anxiety/Avoidance was significantly related to the probability of a therapist using Psychoeducation-Child in the presence of a corresponding treatment target. The OR was 2.61 indicating that the odds of a therapist endorsing a Psychoeducation-Child hit increase by 2.61 as therapists' scores on the KEBSQ 3A change from zero to one.

Other non-KEBSQ continuous predictor variables can be interpreted in a similar fashion, with movement closer to the mean score, rather than the movement from zero (No) to one (Yes). For example, Table 18 shows a significant predictor variable of EBPAS-50 attitudes in Activity Selection when including KEBSQ Depressed/Withdrawn awareness knowledge. The beta-coefficient is -4.36, standard error is 2.06, *t*-value is -2.12, and is significant at $p = .04$. This finding suggests that as therapists' EBPAS-50 scores get closer to the mean, the log odd of endorsing an Activity Selection hit decrease by 4.36. The OR is 0.01 indicating that the odds of a therapist endorsing a Cognitive hit decrease by a factor of 0.01 (or 100 when taking the inverse

(i.e., 1/0.01) due to the negative directionality) compared with therapists whose EBPAS-50 score moved away from the mean.

Overall across the 12 clusters of analyses (one cluster for each PDE), a total of 24 models were completed. Upon visual inspection of model outputs, there were several atypical ORs and beta coefficients (e.g., exponential). For example, within the Exposure Model 1 (see Table 13), the PDE specific awareness knowledge predictor (i.e., KEBSQ 1A) had a beta coefficient of 21.79, standard error of 36099.22, *t*-value of 0, $p = 1.00$, and an OR of 2.9*10^9. These results were potentially due to low variability within the predictor variable; specifically, 95.9% ($N = 848$ of 884) of the MTPS reports included in the analysis utilized a positive/correct response for KEBSQ 1A. Similarly, there was low variability within the PDE specific awareness knowledge predictor for Activity Selection (see Table 18; 549 (97.9%) of 561 MTPS reports had a positive/correct KEBSQ 6D response), Commands for Disruptive Behavior (see Table 24; 1700 (92%) of 1848 MTPS reports had a positive/correct KEBSQ 12B response), and Commands for Attention/Hyperactivity (see Table 24; 1530 (82.8%) of 1848 MTPS reports had a positive/correct KEBSQ 12H response), which was likely the cause of atypical ORs and beta coefficients. Additionally, the Maintenance/Relapse Prevention (see Table 19) EBP attitudes OR was atypical (*t*-value = 1.61, SE = 2.25, $p = .12$, OR = 36.92, $\beta = 3.61$). Interestingly, the Maintenance/Relapse Prevention hit variable was significantly and positively correlated with the R-EBPPAS total score ($r = .05$, $p = .01$) which may have affected the model by parsing out variance unequally to two related predictor variables (i.e., multicollinearity). As such, the subsequent results presented are for 19 models (24 total models minus five models of Exposure for Anxiety/Avoidance, Activity Selection for Depressed/Withdrawn, Maintenance for Depressed/Withdrawn, and Commands for Disruptive Behavior and Attention/Hyperactivity).

Table 25 provides an overall summary of predictors for Model 1 and Model 2. ORs are presented alongside with beta coefficients in the results below given the dichotomous criterion variable (Heck, Thomas, & Tabata, 2013) and potential utility in interpreting the results.

Model 1. Overall across the 12 clusters of analyses (one cluster for each PDE), a total of 19 Model 1 analyses were completed. For the first hypothesis stating that PDE specific awareness knowledge would be positively and significantly related to hit rates, the average OR across all 19 analyses was 2.08 (*SD* = 1.50) and beta coefficient was 0.39 (*SD* = 0.93) (see Table 25). Consistent with these OR and beta coefficient averaged results, analyses of the 19 separate models with regard to *p*-values and achieving statistical significance indicated that five (26% of the 19 models completed) performed as expected, two (11% of the 19 models completed) performed opposite (negatively and significantly), and 12 (63% of the 19 models completed) were non-significant. With regard to those models achieving statistical significance in the predicted direction, an increase in PDE specific awareness knowledge was associated with Psychoeducation-Child when examining Anxiety/Avoidance specific knowledge ($t = 2.06$, $p = .05$, OR = 2.61, $\beta = 0.96$), Relaxation when examining Depressed/Withdrawn specific knowledge ($t = 2.64$, $p = .01$, OR = 3.59, $\beta = 1.28$), and Psychoeducation-Parent when examining Anxiety/Avoidance ($t = 2.03$, $p = .05$, OR = 3.19, $\beta = 1.16$), Depressed/Withdrawn ($t = 2.03$, $p = .05$, OR = 3.12, $\beta = 1.14$), and Attention/Hyperactivity specific knowledge ($t = 2.70$, $p = .01$, OR = 4.18, $\beta = 1.43$). Overall, these results suggest that there was a small effect of PDE specific awareness knowledge on hit rates for PDE usage.

Regarding the second hypothesis stating that process knowledge would be significantly and positively related to hit rates, the average OR across all 19 models was 1.01 (*SD* = 0.01) and beta coefficient was 0.01 (*SD* = 0.01). None of these 19 models produced significant statistically

significant findings, suggesting that process knowledge does not relate to PDE usage hit rates. Finally, regarding the third hypothesis stating that positive EBP attitudes would be related to hit rates, results tended in the opposite direction with the average OR for this set of analyses was 0.88 (*SD* = 1.38) and beta coefficient was -0.63 (*SD* = 0.90). Only one (5% of the 19 models completed) reached significance and was contrary to the hypothesized direction.

These findings collectively suggest that when examining just therapists' knowledge and attitudes, PDE specific awareness knowledge has a small and positive effect on hit rates for PDE usage. Further, process knowledge seems to have no effect on this type of outcome, and attitudes seem to relate to PDE usage in a slightly negative way. Figure 2 and 4 detail the average ORs, beta coefficients, and distribution of positive and negative findings across the 19 models. Model 2 results, including additional therapist and youth variables for predicting the same outcomes in Model 1, are presented below.

Model 2. The purpose of Model 2 was to examine the influence of additional therapist and youth demographic variables on PDE hit variables to therapists' knowledge and attitudes. The variables added were therapists' age, years of clinical training, and months with youth. Youth age was added to the models examining hit variables for Problem Solving, Praise, and Time Out given their PDE status varying as a function of youth age for with disruptive behavior concerns. Given the numerous analyses collectively conducted across all specified models, the results are presented as aggregated predictor variables below (e.g., PDE specific knowledge). Additionally, Table 26 provides a summary overview of statistically significant findings across PDEs by predictor variable.

PDE Specific Awareness Knowledge. Overall and consistent with the first hypothesis stating that PDE knowledge would be positively and significantly related to hit rates, the average

OR was 1.71 (*SD* = 1.24) and beta coefficient was 0.17 (*SD* = 1.01). Consistent with these averages, analyses of the 19 separate models with regard to statistical significance indicated that 10 (52% of the 19 models completed) were significant and positive, five (26% of the 19 models completed) were significant and negative, and four (21% of the 19 models completed) were non-significant. With regard to models achieving statistical significance in the predicted direction, an increase in PDE specific awareness knowledge was associated with Cognitive for Disruptive Behavior ($t = 3.81$, $p < .01$, OR = 0.24, $\beta = 0.62$), Psychoeducation-Child for Anxiety/Avoidance ($t = 5.00$, $p < .01$, OR = 2.54, $\beta = 0.93$) and Depressed/Withdrawn ($t = 4.86$, $p < .01$, OR = 2.47, $\beta = 0.91$), Relaxation for Anxiety/Avoidance ($t = 2.97$, $p < .01$, OR = 2.32, $\beta = 0.84$) and Depressed/Withdrawn ($t = 2.76$, $p < .01$, OR = 1.83, $\beta = 0.60$), Psychoeducation-Parent for Anxiety/Avoidance ($t = 5.61$, $p < .01$, OR = 2.86, $\beta = 1.05$), Depressed/Withdrawn ($t = 5.67$, $p < .01$, OR = 2.83, $\beta = 1.04$), Disruptive Behavior ($t = 5.01$, $p < .01$, OR = 4.32, $\beta = 1.04$), and Attention/Hyperactivity ($t = 7.37$, $p < .01$, OR = 3.93, $\beta = 1.37$), and Problem Solving for Disruptive Behavior ($t = 3.51$, $p < .01$, OR = 1.57, $\beta = 0.45$). Overall, these results suggest that there was a moderate effect of PDE specific awareness knowledge on hit rates for PDE use. A theme across the results that performed in the expected direction was that these PDE tended to cover more than two problem areas. On the contrary, common across the results that performed in the opposite direction was that these PDE covered one or two problem areas.

Process Awareness Knowledge. As stated previously, models were run based on individual KEBSQ scores such that when a PDE was indicated for more than one problem area (e.g., Cognitive is a PDE for Anxiety/Avoidance, Depressed/Withdrawn, and Disruptive Behavior), individual models were conducted for each KEBSQ problem area specific score (e.g., Cognitive for Anxiety/Avoidance, Cognitive for Depressed/Withdrawn, Cognitive for Disruptive

Behavior; see Table 8). It is important to note this distinction of specific problem area *KEBSQ score* versus problem area in general due to the influence on the interpretation of the findings. Therefore, the results for all remaining predictors are presented by construct (e.g., process knowledge) for a particular PDE (e.g., Cognitive) when the model included a specific problem area KEBSQ score (e.g., Anxiety/Avoidance). Constructs are divided into sub-headings and PDE and problem area are notated as: PDE (Problem Area: *t*-value, *p* value, OR, and beta coefficient). For example, under the Process Awareness Knowledge sub-heading below, results are presented for Cognitive (Disruptive Behavior: $t = 2.35$, $p = .02$, OR = 1.01, $\beta = 0.01$). These results should be interpreted as the cognitive hit variable evidenced a relationship with process awareness knowledge when including the KEBSQ Disruptive Behavior PDE specific awareness knowledge score in the model.

Overall and slightly consistent the second hypothesis stating that process awareness knowledge would be positively and significantly related to hit rates, the average OR was 1.01 (*SD* = 0.01) and beta coefficient was 0.01 (*SD* = 0.01). Similar to these averages, analyses of the 19 separate models with regard to statistical significance indicated that 13 (68% of 19 models completed) were significant and positive, one (5% of the 19 models completed) was significant and negative, and five (26% of the 19 models completed) were non-significant. Regarding models that achieved statistical significance in the predicted direction, an increase in R-EBPPAS total scores were significantly and positively related to Cognitive (Disruptive Behavior: $t = 2.35$, $p = .02$, OR = 1.01, $\beta = 0.01$), Psychoeducation-Child (Anxiety/Avoidance: $t = 3.03$, $p < .01$, OR = 1.01, $\beta = 0.01$ and Depressed/Withdrawn: $t = 3.01$, $p < .01$, OR = 1.01, $\beta = 0.01$), Relaxation (Anxiety/Avoidance: $t = 2.06$, $p < .01$, OR = 1.01, $\beta = 0.01$ and Depressed/Withdrawn: $t = 3.04$, $p < .01$, OR = 1.02, $\beta = 0.02$), Psychoeducation-Parent (Anxiety/Avoidance: $t = 3.51$, $p < .0$, OR

= 1.01, β = 0.01; Depressed/Withdrawn: t = 3.50, p < .01, OR = 1.01, β = 0.01; Disruptive Behavior: t = 2.92, p < .01, OR = 1.01, β = 0.01; and Attention/Hyperactivity: t = 3.58, p < .01, OR = 1.01, β = 0.01), Problem Solving (Depressed/Withdrawn: t = 4.20, p < .01, OR = 1.01, β = 0.01), Praise (Disruptive Behavior: t = 2.13, p = .03, OR = 1.01, β = 0.01), and Tangible Rewards (Disruptive Behavior: t = 4.23, p < .01, OR = 1.02, β = 0.02 and Attention/Hyperactivity: t = 3.44, p < .01, OR = 1.02, β = 0.02). Taken together, the majority of results suggest that there is a small effect for process awareness knowledge in predicting EBP use. A theme across these hypothesis-consistent results was again that these practices typically covered two or more problem areas.

Attitudes. For the third hypothesis stating that EBP attitudes would be positively and significantly related to PDE hit rates, the average OR was 0.42 (*SD* = 0.43) and beta coefficient was -1.27 (*SD* = 1.09). Consistent with OR and beta coefficient averages, analyses of the 19 separate models with regard to statistical significance indicated that zero (0% of the 19 models completed) were significant and positive, 11 (58% of the 19 models completed) were significant and negative, and eight (42% of the 19 models completed) were non-significant. With regard to those models achieving statistical significance, a decrease in EBP attitudes was associated with Cognitive (Anxiety/Avoidance: t = -8.11, p < .01, OR = 0.03, β = -3.43; Depressed/Withdrawn: t = -6.66, p < .01, OR = 0.06, β = -2.79; and Disruptive Behavior: t = -8.27, p < .01, OR = 0.03, β = -3.49), Psychoeducation-Parent (Anxiety/Avoidance: t = -2.85, p < .01, OR = 0.34, β = -1.09; Depressed/Withdrawn: t = -2.84, p = .01, OR = 0.34, β = -1.09; Disruptive Behavior: t = -2.33, p = .02, OR = 0.42, β = -.86; and Attention/Hyperactivity: t = -3.50, p < .01, OR = 0.26, β = -1.36), Problem Solving (Depressed/Withdrawn: t = -6.68, p < .01, OR = 0.14, β = -1.94; Disruptive Behavior: t = -6.61, p < .01, OR = 0.15, β = -1.88; and Attention/Hyperactivity: t = -6.66, p <

.01, OR = 0.15, β = -1.12), and Tangible Rewards (Disruptive Behavior: t = -2.46, p = .01, OR = 0.31, β = -1.17). These seemingly counterintuitive results appear to suggest that negative attitudes toward EBP are related to using PDE in the presence of a corresponding treatment target. Interestingly, a similar theme for the statistically significant findings noted above is that these PDE covered more than two problem areas.

Therapist age. For the hypothesis related to younger therapist age relating to more PDE hit use, the average OR was 0.96 (*SD* = 0.02) and beta coefficient was -0.04 (*SD* = 0.02). Consistent with these OR and beta coefficient averaged results, analyses of the 19 separate models with regard to *p*-values and achieving statistical significance indicated that zero (0% of the 19 models completed) were significant and positive, 16 (84% of the 19 models completed) were significant and negative, and 3 (16% of the 19 models completed) were non-significant. Regarding those models achieving statistical significance in the predicted direction, a decrease in therapists' age was associated with Cognitive (Anxiety/Avoidance: t = -7.87, p < .01, OR = 0.93, β = -0.02; Depressed/Withdrawn: t = -7.63, p < .01, OR = 0.93, β = -0.07; and Disruptive Behavior: t = -6.20, p < .01, OR = 0.94, β = -0.06), Psychoeducation-Child (Anxiety/Avoidance: t = -3.39, p < .01, OR = 0.96, β = -0.04 and Depressed/Withdrawn: t = -3.37, p < .01, OR = 0.96, β = -0.04), Relaxation (Anxiety/Avoidance: t = -2.52, p = .01, OR = 0.97, β = -0.03), Psychoeducation-Parent (Anxiety/Avoidance: t = -6.56, p < .01, OR = 0.95, β = -0.05; Depressed/Withdrawn: t = -6.51, p < .01, OR = 0.95, β = -0.05; Disruptive Behavior: t = -6.05, p < .01, OR = 0.95, β = -0.05; and Attention/Hyperactivity: t = -6.44, p < .01, OR = 0.95, β = -0.05), Problem Solving (Depressed/Withdrawn: t = -9.90, p < .01, OR = 0.94, β = -0.06; Disruptive Behavior: t = -8.02, p < . 01, OR = 0.96, β = -0.05; and Attention/Hyperactivity: t = -7.76, p < .01, OR = 0.96, β = -0.04), Praise (Disruptive Behavior: t = -2.84, p = .01, OR = 0.98, β

= -0.02 and Attention/Hyperactivity: t = -2.07, p = .04, OR = 0.98, β = -0.02), and Tangible Rewards (Disruptive Behavior: t = -2.07, p = .04, OR = 0.98, β = -0.03). Overall, these findings tend to suggest that younger therapists engage in more PDE use in the presence of a corresponding treatment target.

Years of clinical training. For the hypothesis stating that less years of clinical training would relate to more PDE hit use, the average OR was 0.97 (*SD* = 0.12) and beta coefficient was -0.03 (*SD* = 0.12). Consistent with these averaged results, analyses of the 19 separate models with regard to *p*-values and achieving statistical significance indicated that seven (37% of the 19 models completed) were positive, eight (42% of the 19 models completed) were negative, and four (21% of the 19 models completed) were non-significant. With regard to those models achieving statistical significance in the predicted direction, a decrease in years of clinical training was associated with Cognitive (Depressed/Withdrawn: t = -7.93, p = .03, OR = 0.94, β = -0.06 and Disruptive Behavior: t = -2.21, p = .03, OR = 0.94, β = -0.07), Relaxation (Anxiety/Avoidance: t = -6.71, p < .01, OR = 0.75, β = -0.29 and Depressed/Withdrawn: t = -6.08, p < .01, OR = 0.76, β = -0.28), Praise (Disruptive Behavior: t = -6.14, p < .01, OR = 0.85, β = -0.17 and Attention/Hyperactivity: t = -6.08, p < .01, OR = 0.84, β = -0.17), and Tangible Rewards (Disruptive Behavior: t = -2.56, p = .01, OR = 0.92, β = -0.09 and Attention/Hyperactivity: t = -2.51, p = .01, OR = 0.92, β = -0.09). These findings appear to slightly suggest that therapists with fewer years of clinical training tend to use PDE in the presence of a corresponding treatment target. A notable theme across these PDE were that they all covered over two problem areas.

Months with youth. For the exploratory analyses examining therapists' months with a youth, the average OR was 1.02 (*SD* = 0.03) and beta coefficient was 0.02 (*SD* = 0.04).

Consistent with OR and beta coefficient averages, analyses of the 19 separate models with regard to *p*-values and achieving statistical significance indicated that 11 (58% of the 19 models completed) were significant and positive, one (5% of the 19 models completed) was significant and negative, and seven (37% of the 19 models completed) were non-significant. Regarding the models that achieved statistical significance, an increase in months spent with a youth was associated with Cognitive (Anxiety/Avoidance: $t = 4.21$, $p < .01$, OR = 1.05, $\beta = 0.05$; Depressed/Withdrawn: $t = 4.13$, $p < .01$, OR = 1.05, $\beta = 0.05$; and Disruptive Behavior: $t = 4.16$, $p < .01$, OR = 1.05, $\beta = 0.04$), Psychoeducation-Child (Anxiety/Avoidance: $t = 3.76$, $p < .01$, OR = 1.04, $\beta = 0.04$ and Depressed/Withdrawn: $t = 3.92$, $p < .01$, OR = 1.04, $\beta = 0.04$), Psychoeducation-Parent (Anxiety/Avoidance: $t = 4.07$, $p < .01$, OR = 1.04, $\beta = 0.04$; Depressed/Withdrawn: $t = 4.35$, $p < .01$, OR = 1.04, $\beta = 0.04$; Disruptive Behavior: $t = 4.75$, $p < .01$, OR = 1.05, $\beta = 0.05$; and Attention/Hyperactivity: $t = 4.73$, $p < .01$, OR = 1.05, $\beta = 0.05$), and Praise (Disruptive Behavior: $t = 2.75$, $p = .01$, OR = 1.03, $\beta = 0.03$ and Attention/Hyperactivity: $t = 2.40$, $p = .02$, OR = 1.02, $\beta = 0.02$). Given the post-hoc addition of therapists' months with youth based on the notion that therapists' would engage in practices differentially based on how long they have known a youth, there were no *a priori* hypotheses. Yet, these results seem to suggest that the more time therapists spent with youth, the more frequently they used PDE in the presence of a corresponding treatment target, especially for PDE that covered more than two problem areas. Interestingly, the one specific hypothesis related to a positive relationship between Maintenance/Relapse Prevention (hypothesis nine) was not evaluated (see Table 19) due to lack of variability in the utilization of the PDE and potential problems with multicollinearity.

Youth age. For the hypothesis relating to youth age influencing PDE hit use, the average OR was 0.97 (*SD* = 0.12) and beta coefficient was -0.04 (*SD* = 0.14). Consistent with these averaged results, analyses of the six separate models with regard to *p*-values and achieving statistical significance indicated that three (50% of the six models completed) were significant and positive, one (17% of the six models completed) was significant and negative, and two (33% of the six models completed) were non-significant. Given the varying hypotheses related to youth age, individual examination of effects is worthwhile. As predicted (hypothesis 11), youth age was significantly and negatively associated with Time Out hit (Disruptive Behavior: t = -9.37, $p < .01$, OR = 0.73, β = -0.32). Similarly, as predicted (hypothesis 13), youth age was significantly and positively related to the Problem Solving hit (Depressed/Withdrawn: t = 3.26, $p < .01$, OR = 1.05, β = 0.05; Disruptive Behavior: t = 3.13, $p < .01$, OR = 1.04, β = 0.04; and Attention/Hyperactivity: t = 3.37, $p < .01$, OR = 1.05, β = 0.05). Youth age was not a significant predictor for the PDE hit variable of Praise (hypothesis 10). These findings are consistent with the youth treatment outcome literature suggesting that certain PDE tend to be associated differentially with younger and older youth (Chorpita & Daleiden, 2009; PracticeWise, LLC, 2015).

In summary, the results from the current study appear to provide initial support a considerable amount of the original hypotheses. To review, the hypotheses of the current study were that higher awareness of practice element (hypothesis one) and process (hypothesis two) knowledge, more favorable attitudes (hypothesis three), having a cognitive-behavioral or behavioral theoretical orientation (hypothesis four), younger therapist age (hypothesis five), doctoral degree (hypothesis six), Psychology/Psychiatry professional specialty (hypothesis seven), and fewer years of clinical training (hypothesis eight) would significantly relate to EBP

use. For specific PDE, it was also hypothesized that more months with a youth would be related to Maintenance/Relapse Prevention hit rates (hypothesis nine); younger youth age would be related to Praise (hypothesis 10), Time Out (hypothesis 11), and Commands (hypothesis 12) hit rates; and older youth age would be related to Problem Solving hit rates (hypothesis 13). Hypotheses four, six, seven, nine, and 12 were not evaluated due to the overall skew and correlations between the predictor variables.

Tables 25 and 26 provides an overall summary of the study's findings and Figures 3 and 5 graphically display the OR and beta coefficient means and distributions for Model 2. There was moderate support for the hypothesis of PDE specific awareness knowledge relating to EBP use. Results from the current study also provide modest support for process awareness knowledge, fewer years of clinical training, and younger therapist age positively influencing EBP use. On the contrary, EBP attitudes were significantly and negatively related to EBP use. Additionally, an increase in therapists' months with youth was positively related to some EBP use. When examining youth age, these were consistent with treatment outcome literature which noted that younger age is associated with Time Out and older age with Problem Solving.

Discussion

The current study was an examination of therapist and youth characteristics on therapist-reported EBP use. Therapist knowledge of and attitudes toward EBP were of particular importance. Additionally, therapist and youth demographic variables were included in analyses based upon the existing literature. This was the first study to examine these relationships at a practice element (i.e., specific therapeutic technique) level, which adds to the complexity of the study and findings. EBP use was defined as the positive endorsement (i.e., hit) of a PDE in the

presence of a corresponding treatment target. This was the first study to examine self-reported EBP use within this type of context.

Two separate models were run to examine the current study's hypotheses. Across all analyses, Model 1 produced lower AIC and BIC values, indicating an overall better fit with the four parameters of (a) intercept, (b) KEBSQ problem area scores, (c) R-EBPPAS total scores, and (d) EBPAS-50 total scores, over Model 2 with additional parameters of therapist and youth variables (ranging from seven to eight parameters, if youth age was included). Given these results, it appears that these data are best explained with the parsimonious model of therapists' knowledge and attitudinal variables only. When examining Model 1, the hypotheses of higher PDE specific awareness knowledge, process awareness knowledge, and attitudes were largely unsupported. Furthermore, a majority of the analyses produced non-significant findings.

However, given that the purpose of the current study was to examine the extent to which therapists' knowledge, attitudes, *and* demographic as well as youth variables influence EBP use, Model 2 results appeared to be more relevant. Heck, Thomas, & Tabata (2014) note that while choosing lower AIC and BIC values is often the rule when evaluating model fit, it is also important to include parameter substance and sensibility in relation to the overall study's purpose when making model-fit decisions. As such, the following discussion reflects Model 2 findings, in light of this distinction related to parameter relevance. Moreover, when examining overall averaged effects across Model 1 and Model 2, the results tended to be similar (see Figures 2 through 5 for a comparison) related to therapists' knowledge and attitudes. However, there were differences related to significant findings, especially related to EBP process awareness knowledge. When describing PDE findings below, parenthetical letters represent the KEBSQ problem area score that was included for the significant effect and model. For example,

Cognitive (A) represents findings for the PDE of Cognitive when the KEBSQ Anxiety/Avoidance score was included in the model.

PDE Specific Awareness Knowledge

The first hypothesis stating that higher PDE specific awareness knowledge would be related to self-reported EBP use was somewhat supported. The averaged OR (*M* = 1.71, *SD* = 1.24) and beta coefficient (*M* = 0.17, *SD* = 1.01) values were small but positive, and in favor of the first hypothesis. More specifically, PDE specific awareness knowledge was positively associated with the hit variables of Cognitive (B), Psychoeducation-Child (A, D), Relaxation (A), Psychoeducation-Parent (A, D, B, H), and Problem Solving (B). Upon further inspection of these PDEs, they had a high average base rate usage (65%) within CAMHD intensive in-home samples (CAMHD, 2015) and covered a high average number of problem areas (*M* = 2.66). Although only *post hoc* speculation about these specific practices, these findings potentially suggest that PDE specific knowledge is important to the application of practices that occur frequently within the CAMHD population that are meant to be used across several problem areas. Interestingly, and in support of this idea, less PDE specific awareness knowledge was associated with PDE hit use on Time Out, which is derived from the evidence-base for younger youth with Disruptive Behavior. Taken together, these results may suggest that PDE specific awareness knowledge may be more beneficial to therapists when using PDE that cover multiple problem areas.

Process Awareness Knowledge

The second hypothesis of higher process awareness knowledge relating to more PDE use received slight support with very small OR (*M* = 1.01, *SD* = 1.01) and beta coefficient (*M* = 0.01, *SD* = 0.01) averages but in the positive direction. More specifically, there was a positive

relationship for the hit variables of Cognitive (B), Psychoeducation-Child (A, D), Relaxation (A, D), Psychoeducation-Parent (A, D, B, H), Problem Solving (D), Praise (B), and Tangible Rewards (B, H). These practices seem to be active (i.e., require reciprocal effort for both therapist and youth/caregiver), can be potentially appetitive (i.e., enjoyable for both therapist and youth/caregiver), covered at least two or more problem areas, and had a high base rate usage (59.4%; CAMHD, 2015) within the CAMHD intensive in-home population. Taken together, these results provide initial but weak evidence to support the idea of EBP process knowledge, especially within practices that are frequently used for multiple problem areas that are used frequently with CAMHD youth.

These findings may elucidate an important distinction regarding therapists' overall EBP knowledge. Acknowledging that a positive association does not imply causality, further research may be warranted to replicate and understand the role of process awareness knowledge. As a first step, emerging research has begun to distinguish the EBP process within Clinical Psychology training (Lubbe, Radcliffe, Callands, Green, & Thorn, 2007; Spring, 2007). Additionally, Clinical Psychology researchers may wish to collaborate with Social Work (Parish & Rubin, 2012) and Nursing (Fineout-Overholt & Johnston, 2007) fields that have started to examine the components of the process as well as transdisciplinary models for EBP training (Satterfield et al., 2009).

However, there was also an inverse relationship between process awareness knowledge within Time Out. This may have occurred as an artifact of the analytic strategy and the relationship between process knowledge and other predictor variables. Of note, this PDE can be time intensive, difficult to administer, and is used specifically for Disruptive Behavior. The Time Out model also included youth age, based on previous literature. As with any regression, the

inclusion of additional predictor variables could have also altered the direction and significance of findings (Heck, Thomas, & Tabata, 2013). Indeed, when running a logistic regression to examine the direct effect of EBP process awareness knowledge on the Time Out hit variable, the results were positive and non-significant $F(1,33) = .01$, $p = .94$). Therefore, the negative and significant results may be an artifact of the omission of relevant predictor variables or the interaction among the other variables in the model.

The interpretation of both types of awareness knowledge was fairly similar when examining both PDE specific and process awareness knowledge results concurrently. Consistent with the first and second hypotheses, an increase in both PDE specific and process knowledge was associated with the PDE hit variables of Cognitive (B), Psychoeducation-Child (A, D), Relaxation (A, D), and Psychoeducation-Parent (A, D, B, H). Notably, these practices tend to be appetitive for both youth and caregiver recipients and cover multiple problem areas. Additionally, these practices have been present in treatment studies since the late 1960s to early 1970s (Okamura, Orimoto, Nakamura, Beidas, & Chorpita, in preparation), perhaps making more likely that therapists had exposure to these practices in pre-service and continuing education training. Therefore, the importance of PDE specific and process awareness knowledge may be a reflection of the longevity of successful training associated with these core therapeutic techniques. Future research may wish to study the context under which these specific PDE are applied to understand any additional organizational, therapist, and youth (Damschroder et al, 2009) constructs that may support successful implementation.

Attitudes

Contrary to the third hypothesis, there was a consistent negative relationship between EBP attitudes and PDE use with moderate OR ($M = 0.42$, $SD = 0.43$) and beta coefficient (M = -

1.27, *SD* = 1.09) averages. Specifically, negative attitudes related to PDE hit rates within Cognitive (A, D, B), Psychoeducation-Parent (A, D, B, H), Problem Solving (D, B, H), and Tangible Rewards (B). Upon further inspection of these PDE, these practices had a high base rate usage (65.8%; CAMHD, 2015) within CAMHD intensive in-home youth and typically covered more than two problem areas, with the exception of Time Out. Taken together, it appears that less favorable attitudes can be associated with usage of PDEs frequently seen in intensive in-home community settings that cover multiple problem areas.

These findings are contrary to previous studies indicating that therapists' EBP attitudes were significantly and positively related (Becker, Smith, & Jensen-Doss, 2013; Beidas et al., 2012; Harned, Dimeff, Woodcock, & Contreras, 2013; Kolko et al., 2009; Leathers & Strand, 2013; Nelson & Steele, 2008) and not associated (Bearman et al., 2013; Higa-McMillan et al, 2014; Lewis & Simmons, 2011) with EBP use. This may have happened for a number of reasons. First, the use of the updated EBPAS-50 (Aarons et al., 2012) may have elucidated findings related to the many additional constructs (e.g., fit, limitations, monitoring) that influence therapists' attitudes. Indeed, the current sample of therapists' average attitudinal scores (*M* = 2.22, *SD* = 0.25) were lower than other studies that have examined the EBP attitudes using a similar measure, the EBPAS, (*M* = 2.93, *SD* = 0.48, Higa-McMillan et al., 2014; *M* = 2.99, *SD* = 0.48, Nakamura et al., 2011), yet consistent with original EBPAS studies (*M* = 2.30, *SD* = 0.45, Aarons, 2004; *M* = 2.33, *SD* = 0.45, Aarons et al., 2010). Previously, therapists within the State of Hawai‘i CAMHD have demonstrated higher EBP attitudes (Izmirian & Nakamura, 2015; Nakamura et al., 2011; Okamura et al., 2016), which likely reflects the state-wide EBP dissemination and implementation efforts (Nakamura et al., 2011; Nakamura et al., 2013) and differential measurement of attitudes. Furthermore, the current study is the first to examine

attitudes with the EBPAS-50 in the State of Hawai‘i. Therefore, it may be that the updated EBPAS-50 reflects a more comprehensive profile of EBP attitudes, reflective of the changing climate within ongoing EBP dissemination and implementation efforts.

Another potential reason for the inverse relationship between therapists' attitudes and EBP use may be due to the nuanced nature of current study's analyses. Previous studies have defined EBP use at an aggregate level (e.g., practices occurring in 30% or more Level 2 treatment study groups, Higa-McMillan et al., 2014), which examined therapists' attitudes on indiscriminate EBP usage for numerous PDEs at once. The careful definition and calculation of EBP may have elucidated specific relationships related to therapists' use. Furthermore, the current study examined EBP use under the conditions ascribed in the extant literature adding an additional layer of EBP use *when indicated*.

It is interesting then that a decrease in EBP attitudes was related to PDE use in the presence of a corresponding treatment target for those that are considered to be frequently used within the intensive in-home level of care that have high EBP problem area coverage. A complementary explanation may be due to therapist fatigue related to these PDE and the circumstances under which they are applied. The current sample of youth were mostly adolescents with disruptive behavior disorders, which can be challenging for therapists, caregivers, and youth. The State of Hawai‘i CAMHD has packaged treatments (e.g., Multisystemic therapy; Henggeler et al., 1999) to target this specific population. It may be that within this system of care, favorable EBP attitudes are not necessary for the proper use of PDE and may be better accounted for by organizational- or system-related efforts. In support of this notion, Izmirian and Nakamura (2015) noted that EBP attitudes were significantly related to organizational membership and social desirability within a similar CAMHD sample. It may be

that therapists' EBP attitudes were influenced by coworkers and their organization climate and culture. More research is clearly needed to refine attitudinal measurement and help understand these findings as they relate to EBP use, especially given these contrary findings within a climate of ongoing EBP implementation and social desirability.

Therapist Age

Consistent with the fifth hypothesis, therapists' age was inversely related to EBP use as evidenced by small but negative OR (*M* = 0.96, *SD* = 0.02) and beta coefficient (*M* = -0.04, *SD* = 0.02) averages. Younger therapist age was related to PDE hit variables of Exposure (A), Cognitive (A, D, B), Psychoeducation-Child (A, D), Relaxation (A), Psychoeducation-Parent (A, D, B, H), Problem Solving (D, B, H), Praise (B, H), and Tangible Rewards (B). This finding is consistent previous research that noted that older therapists tend to use less treatment manuals (Becker, Smith, & Jensen-Doss, 2013) and moderated the effect of using active training techniques in supervision (Bearman et al., 2013). The current sample of therapists were relatively young (*M* = 38.42, *SD* = 10.01), which may have reflected the recency of their training. Future studies may wish to examine other constructs that may be related to therapist age as moderators of EBP adoption. From an EBP implementation stand point, it may be beneficial to further explicate this therapist age finding in order to identify attributes that are more amenable to EBP training efforts. For example, it may be that therapists' age and amenability to feedback are correlated. Given this relationship, EBP implementation stakeholders could focus their attention on motivating therapists to be more receptive to feedback rather than simply acknowledging that their younger therapists will implement EBP.

Years of Clinical Training

In line with hypothesis eight, less years of clinical training was related with PDE hit use as evidenced by small but negative OR (M = 0.97, SD = 0.12) and beta coefficient (M = -0.03, SD = 0.12) averages. Specifically, therapists with less years of clinical training tended to administer the practices of Cognitive (D, B), Relaxation (A, D), Praise (B), and Tangible Rewards (B, H) in the presence of a corresponding treatment target. Upon further inspection of these PDE, these practices tended to be more time-intensive, requiring additional preparation and skill, and had a lower base rate usage within CAMHD intensive in-home populations (45.5%; CAMHD, 2015). It seems that therapists with fewer years of clinical training more actively engage in practices that may require more time and effort and occur less frequently within their population. This finding may be a reflection of pre-service training, where new therapists are more likely to use practices that they have recently learned (Brookman-Frazee et al., 2010). This finding may carry with it two important implications. First, newer therapists should receive support for continuing their use of these PDE as informed by research studies examining the best practices of supporting therapists' desired behaviors. Second, research and training efforts may wish to examine veteran therapists' beliefs and attitudes regarding the use of these specific practices to aid in adaptive training techniques within systems of care.

Conversely, more years of clinical training was significantly related to the hit variables of Psychoeducation-Child (A, D), Psychoeducation-Parent (A, D, B, H), and Time Out (B). It is interesting that these PDE tended to be used more frequently in the CAMHD intensive in-home population (61.4%; CAMHD, 2015) and cover a wide range of problem areas (M = 2.33). Furthermore, although these PDE have remained consistent over the history of youth extant treatment literature (Okamura, Orimoto, Nakamura, Beidas, and Chorpita, in preparation), potentially suggesting that therapists could have had exposure and training in these practices,

both before and after graduate training, the degree and quality of such training could have affected implementation of these practices. Many studies of pre-service students and training directors have reported less than optimal training in EBP (Crits-Christoph, Frank, Chambless, Brody, & Karp, 1991; Hays et al., 2002; Karekla, Lundgren, & Forsyth, 2004; Lubbe, Radcliffe, Callands, Green, & Thorn, 2007; Pidano, Kurowski, & McEnvoy, 2010; Weissman et al., 2006). Pidano & Whitcomb (2012) surveyed students within child clinical psychology doctoral programs and found that over a third of participants reported that they did not achieve exposure, experience, or expertise in empirically supported, evidence-based intervention strategies during their graduate training. It may be that more experiential learning is necessary for these higher base rate and wider coverage practices to be applied when indicated by particular treatment targets. This finding is consistent with the notion that more PDE specific and process awareness knowledge are essential to practices that occur frequently and cover a wide range of problem areas. Continuing education training efforts may wish to focus their attention to bolstering newer therapists' confidence in using these wider coverage practices.

One important caveat of the mixed findings related to years of clinical training is the extent to which this predictor variable was related to therapist age. From a pragmatic perspective, it would seem that older therapists would receive more clinical training by way of continuing education and ongoing training post-graduate school. Indeed, a post-hoc correlation revealed that therapists' age and years of clinical training were significantly and positively correlated ($r = .32$, $p < .01$). Therefore, it may be that therapists' age and years of clinical training were reflective of relatively similar constructs, and thus introduced multicollinearity into the individual models, which may have caused the mixed findings. Future research may wish to examine the assessment

and relationship between these and other therapist demographic variables in order to eliminate redundancies and carefully define dissemination constructs.

Months with Youth

An increase in therapists' months of service with youth was consistently related to EBP use, with small but positive OR (*M* = 1.02, *SD* = 0.03) and beta coefficient (*M* = 0.02, *SD* = 0.04) averages. More specifically, more months with a youth was related to the PDE hit variables of Cognitive (A, D, B), Psychoeducation-Child (A, D), Psychoeducation-Parent (A, D, B, H), Praise (B, H), and Commands (B). Notwithstanding Psychoeducation-Child and Parent, these practices are often sequenced after initial sessions (Chorpita & Weisz, 2009; Kendall, 1994; Weisz et al., 1999), which may require rapport and other nonspecific treatment factors (Kazdin, 1979; Strupp & Hadley, 1979). It makes sense then that these PDE are related to more months of service within the therapist-client relationship. In contrast, the Time Out PDE hit was inversely related to the number of months a therapist had been serving a youth. One explanation for this is the desired effect of the practice element (i.e., extinguishing a behavior) and the problem area (i.e., Disruptive Behavior) for which it is used. It may be that therapists are more willing to introduce the PDE of Time Out earlier in treatment in order to reduce caregivers' difficulties with their youth's externalizing behaviors and potentially to help provide some form of immediate help with problematic behaviors. Future research may wish to examine therapists' months with youth for therapeutic alliance practices such as rapport building or supportive listening.

Youth Age

Finally, youth age differentially influenced PDE hit use as evidenced by a relatively small and negative average OR (*M* = 0.97, *SD* = 0.12) and beta coefficient (*M* = -0.04, *SD* = 0.14). As

predicted for hypothesis 11 and 13, younger youth age was associated with the PDE hit variable of Time Out (B), and older youth age was associated with the PDE hit variable of Problem Solving (D, B, H), respectively. This finding is consistent with extant treatment outcome literature examining age-related differences in treatment techniques for younger and older youth with disruptive behavior disorders (Chorpita, Daleiden, & Weisz, 2005; Chorpita et al., 2009). It is important to note that younger youth age relating to more PDE use in Praise (hypothesis 10) and Commands (hypothesis 12) was not evaluated due low variability within the predictor and criterion variables. As such, it is unclear how those results would have affected the overall OR and beta coefficient of the youth age predictor variable. Therefore, future studies examining the extent to which youth age influences specific PDE use may wish to use a larger sample thereby increasing variability within criterion and predictor variables. As a whole, however, these results suggest that there is slight support for the notion that youth age influences therapists' PDE use.

In summary, the current study lends some evidence to support theories that have suggested that therapists' EBP knowledge is important toward their dissemination and implementation (Damschroder et al., 2009; Fixsen et al., 2005; Glisson & Schoenwald, 2005; Prochaska & Velicer, 1997; Rogers, 2003; Wandersman et al., 2008). This was the first study to examine and find differential influence in varying EBP knowledge definitions and measurement on therapist-reported EBP use. Additionally, EBP use was carefully defined through a PDE lens when indicated by the presence of corresponding treatment targets dictated by the extant treatment literature (PracticeWise, LLC, 2015).

In total, there were eight general hypotheses that higher awareness practice element (hypothesis one) and process (hypothesis two) knowledge, more favorable attitudes (hypothesis three), having a cognitive-behavioral or behavioral theoretical orientation (hypothesis four),

younger age (hypothesis five), having a doctoral degree (hypothesis six), endorsing a Psychology/Psychiatry professional specialty (hypothesis seven), and fewer years of clinical training (hypothesis eight) would relate to EBP use. Additionally, there were five nuanced hypotheses for specific practices. Specifically, it was also hypothesized that the more months a therapist spent with a youth would be related to Maintenance/Relapse Prevention hit rates (hypothesis nine); younger youth age would be related to Praise (hypothesis 10), Time Out (hypothesis 11), and Commands (hypothesis 12) hit rates; and older youth age would be related to Problem Solving hit rates (hypothesis 13).

Across the eight general research hypotheses, the current study's findings lend slight support for five hypotheses including (a) higher practice specific awareness knowledge, (b) higher process awareness knowledge, (c) younger therapist age, (d) fewer years of clinical training, and (e) youth age relating to EBP use. Both practice specific and process awareness knowledge were important for some practices that are used frequently for a variety of problem areas and long history of established efficacy. Process awareness knowledge influenced the use of practices that occurred frequently and required less time and effort in session. Practice specific awareness knowledge appears to be important when practices cover more than two problem areas and less so when practices are particular to one or two problem areas. Similarly, younger therapists more frequently engaged in EBP use and years of clinical training seemed to influence EBP use based on how frequently they were implemented. However, it was noted that therapist age and years of clinical training predictor variables were related. Youth age was differentially related to EBP use, which was consistent with the youth extant treatment outcome literature.

Contrary to the hypothesis, therapists' with less favorable EBP attitudes endorsed more EBP use in the presence of an associated treatment target, which may have been an artifact of

measurement, construct definition, and social desirability. Exploratory analyses also revealed that more time with a youth related to a higher endorsement of EBP use. Three of the study's general hypotheses related to theoretical orientation, degree, and professional specialty and two hypotheses related to therapists' months with youth on Maintenance/Relapse Prevention and youth age on Commands were not evaluated due to low variability within and strong similarity to other variables.

Limitations

The current study is not without limitations and a few comments are noteworthy for discussion. First, the issue of therapist self-report was a concern. Studies have suggested that therapist-reported in-session behavior may not be as objective as desired (Borntrager et al., 2013; Nakamura, Selbo-Bruns, Okamura, Chang, & Slavin, 2014; Sholomskas et al., 2005). Furthermore, a previous study noted that within CAMHD therapists, social desirability was the only significant predictor of positive EBP attitudes (Izmirian & Nakamura, 2015). These findings suggest that therapists may feel social pressure to endorse EBP, which may inflate their self-reported EBP use and attitudes. Even though other studies have noted that therapists often report accurate accounts of treatment sessions when reporting on their actual behavior (Bearman et al., 2013; Borntrager et al., 2013; Ward et al., 2013), a reliance on self-report for EBP attitudes, usage, and other constructs remain a study limitation.

Additionally, while this study used varying definitions and measurement of EBP knowledge and attitudes, it is important to note the differences in the level of measurement across the predictor constructs. More specifically, the KEBSQ was used in a PDE specific manner, with therapists' noting if a PDE was derived for the evidence-base for a particular problem area. The R-EBPPAS and EBPAS-50 measures were used with a total mean score,

which aggregated item level responses. This imbalance is noteworthy to mention due to the comparisons being made within the Results and Discussion sections. Future studies may wish to examine process awareness knowledge and EBP attitudes on a molecular level in order to make more direct comparisons between the constructs. For example, rather than asking therapists about their attitudes towards EBPs in general, one could ask them about their attitudes towards specific PDEs.

Another important limitation related to therapist self-report lies within the current study's criterion variable definition. Specifically, when therapists' endorsed a PDE that covered more than one problem area, they were not required to report which treatment target they had used with the PDE on the MTPS. That is, when using Cognitive, they did not explicitly state that they used Cognitive for Anxiety/Avoidance, Depressed/Withdrawn, or Disruptive Behavior treatment targets. As stated in the methods section, it is important to interpret the findings of the current study in light of this distinction. Therefore, the results and discussion were presented by PDE but there was no way of understanding therapists' decision-making when endorsing a PDE relative to the problem area nor treatment targets for which they were being endorsed.

Next, low variability on several variables may have affected the findings within several of the specific models. It is important when conducting regression analyses to have adequate variance within criterion and predictor variables (Tabachnick & Fidell, 2007; Heck, Thomas, & Tabata, 2013). There were several models that included low variability within the criterion variable. These models were Cognitive (90.1% hit), Time Out (84.9% hit), Commands (82.9% hit), Activity Selection (25.9% hit), and Maintenance/Relapse Prevention (22% hit). Indeed, when examining the patterns of findings, the aforementioned models sometimes had unusual and inconsistent findings (e.g., PDE specific awareness knowledge for Cognitive was significantly

positive when looking at Disruptive Behavior but negative for Depressed/Withdrawn). Furthermore, given some of the inconsistent findings related to therapists' years of clinical training and the correlation with therapist age, there may have been other predictor correlations and multicollinearity that affected the models. Future research on a larger sample of therapists and youth may improve the criterion variable variance, and further examination of predictor definitions and correlations also appears warranted.

Moreover, the current study used a cross-section of MTPS reports from six months pre- and post-data collection. This time period was chosen in order to limit the backward prediction on the criterion variables of interest. This cross-sectional design is unlike other studies that have examined CAMHD data (e.g., Higa-McMillan et al., 2015; Orimoto et al., 2009), which utilized a treatment episode (i.e., continuous time of treatment with no breaks longer than 31 days) for each youth. Therefore, it is unclear if a youth had been receiving services for one month or several years prior to their MTPS reports being extracted. As mentioned previously, however, billing data were provided by CAMHD to code each youth's months within the CAMHD system and months with their current therapist (used as a predictor variable in the current study). Another noteworthy comment concerns that sometimes National Provider Identification numbers for billing data did not match MTPS data, indicating that a supervisor or other therapist may have been completing the MTPS reports or billing sheets. This occurred in 43 (1.4%) of the 2976 billing sheets for the MTPS reports in the sample. This could also be why some of the therapists within the sample did not have corresponding MTPS reports. Unfortunately, this is an artifact of practice reporting within the CAMHD system of care. Future studies could control for this concern by monitoring specific therapists and clients throughout a service episode. Furthermore, there were often breaks in service that would warrant a new treatment episode (e.g., 40-day break

in treatment) that may have been attributable to other circumstances (e.g., summer break, short-term crisis management). In light of this inconsistencies, youth on average were within month 22 (*SD* = 29 months) of treatment and were in month 7 (*SD* = 7 months) with their current therapist. These data suggest the nascence of the current therapist-youth relationship relative to a youth's overall CAMHD treatment and likely reflects other community mental health samples.

It is important to note the generalizability of the current study's findings within the context of the sampling procedure. Regarding the targeted population, care was taken when sampling CAMHD therapists to get a representative sample of intensive in-home therapists. First, all (*N* = 8) intensive in-home contracted agencies in Hawaii were contacted to participate. Of those, seven (87.5%) agencies agreed and one (12.5%) agency declined to participate. Of the seven agencies that agreed to participate, one (17.3%) agency did not return follow-up emails or phone calls. There were 119 therapists within the six agencies that participated. Eighty-four (70.6%) therapists were asked to participate and 62 (73.8%) of those therapists completed the survey. Based on this sampling, it is hoped that the current sample is reflective of CAMHD intensive in-home therapists. However, these therapists volunteered to participate in this study, which inherently distinguishes them from those who did not participate. Therefore, care should be taken to represent the findings of this study to therapists who actively participate in research studies. Additionally, given CAMHD's longstanding commitment to EBP and other quality improvement initiatives (Nakamura et al., 2011; Nakamura et al., 2013), it is unclear the extent to which these findings would generalize to broader community therapists. However, states and systems of care continue to foster EBP mandates (Beidas et al., 2013; Jensen-Doss, Hawley, Lopez, & Osterberg, 2009) that will set the stage for additional post-implementation studies. Future studies could seek to replicate the current study's findings within other systems of care.

Finally, while this study's aim was to examine the link between therapist characteristics and EBP use, the link between therapists' EBP use and youth outcomes has yet to be explored. Future studies may wish to examine this broad picture in order to understand what works for whom when chosen by a particular therapist.

It is hoped that the results from this study may aid researchers in contributing to community-based mean scores in validated measures of important constructs (e.g., EBPAS-50 scores) related to EBP dissemination and implementation. For example, this one of the first studies to use the EBPAS-50 with a diverse sample of community therapists within a climate that supports EBP implementation and sustainability. Therefore, the overall total and subscale scores may serve as reference for other organizations, systems of care, and states that are engaged in active EBP implementation. Researchers could also begin to think about improvements in practice monitoring and reporting. For example, a revision to the MTPS might include endorsement of practices as they relate to specific problem areas and not all problem areas cumulatively. This might serve as both a practice monitoring and knowledge assessment for individual therapists and supervisors. For example, supervisors may wish to review MTPS reports with therapists each month in order to understand the context under which they are implementing practices for youth. These measures can further facilitate therapists' ongoing supervision and professional development. Furthermore, implementation efforts may then shift toward establishing nuanced EBP training related to these constructs (e.g., advanced topics in youth progress monitoring) and consultation to help bolster the use of EBP.

In light of these limitations, the current study has important implications for EBP dissemination and implementation. The findings of this study lend support for the differential effects of therapist knowledge and attitudes on discrete therapeutic practices. Both pre-service

and continuing education should begin to examine these relationships. Pre-service training may wish to focus on when and how to differentiate the use of particular practices in addition to awareness and practical application. Furthermore, training specific to engaging in the EBP process may be warranted, given its positive influence on frequently used practices. It is hoped that with the increase in both therapist knowledge and EBP use, youth mental health outcomes will improve as well.

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Table 1.

Review of Therapist Characteristics and EBP Use

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
Bearman et al. (2013)	57 therapists from 10 clinical service organizations in Hawaii and Massachusetts	Therapist and supervisor concordance on use of EBP as measured by the Consultation Record (Ward et al., 2013)	Age	Older age significantly moderated the effect of modeling and role-play with concordance
			Sex	Discussion of planned content predicted concordance for male therapists
			Ethnicity Years of experience Degree Theoretical orientation EBPAS Attitudes	
Becker et al. (2013)	734 randomly-selected therapists from AMHCA, NASW, and AAMFT	Utilization of treatment manuals as a part of therapists' practice (Likert-scale: often, sometimes, never	Age	Older age predicted lower likelihood of manual use
			Theoretical orientation	CBT orientation predicted greater likelihood of manual use
			Work setting	Community mental health agency predicted greater likelihood of manual use
			EBPAS Openness Scale	Higher scores predicted greater likelihood of manual use

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
			Sex Ethnicity Client population Degree	
Beidas et al. (2012b)	17 school mental health providers	Reported use of exposure measured by ITAY-R	Attitudes measured by the EBPAS	Greater appeal and openness and lower divergence predicted improvement in adherence to exposure
			Readiness for change measured by the ORC Knowledge	
Beidas et al. (2012a)	115 community therapists working with youth	Performance based role-play adherence measured by Adherence and Skill Checklist	Ongoing consultation	Number of consultation hours predicted therapist adherence and skill
			Prior experience with CBT Knowledge	
Brookman-Frazee et al. (2010)	82 therapists from six publicly-funded clinics in San Diego County	EBP composite scores for child- and parent-focused EBP measured by an adapted version of the TPOCS-S	Primary theoretical orientation	Cognitive-behavioral or behavioral had higher Child EBP composite scores than eclectic or other orientations
			Number of months practicing psychotherapy	Fewer months in clinical practice were related to higher Parent EBP composite scores
			Age Sex Race/Ethnicity	

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
			Mental health discipline	
Harned et al. (2013)	181 therapists participating in a randomized controlled dissemination trial	Use of exposure measured by the Exposure Therapy Clinical Use survey Clinical proficiency was measured via structured role plays in applying exposure	Degree	In multi-component training, Doctoral level therapists reported the most frequent use of exposure (then Masters, then Bachelor level therapists)
			Self-efficacy measured by the BAQ	In multi-component training, higher confidence predicted more frequent use of exposure
			Knowledge of exposure	Greater knowledge predicted less frequent use of exposure. However, higher knowledge in the multi-component training group predicted greater proficiency
			Organizational barriers measured by the Barriers survey (Dimeff et al., 2009)	Greater organizational barriers to learning and using exposure predicted less proficiency
			Attitudes measured by the ATET	Negative attitudes predicted less proficiency
			Years of experience Theoretical orientation Client characteristics measured by the Barriers survey (Dimeff et al., 2009) Clinical setting	

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
Higa-McMillan et al. (2014)	74 practicing therapists in a youth system of care	PDEB = practices derived from the evidence-base (e.g., exposure) PMES = practices with minimal evidence support	Attitudes measured by EBPAS Knowledge measured by the KEBSQ Years of clinical training Licensure Professional specialty Theoretical orientation	Eclectic theoretical orientation and Psychology/Psychiatry professional specialty predicted greater use of PDEB
Kolko et al. (2009)	401 community-based practitioners in the NCTSN and affiliates	Use of graduated exposure adapted from the TPC-RF	Attitudes toward treatment manuals from the National Survey Questionnaire (Addis & Krasnow, 2000) Theoretical orientation Ages of patients Number of patients seen Direct client hours Frequency of supervision Opportunities for training Hours/month of training	Positive attitudes toward using treatment manuals predicted the use of gradual exposure
Leathers & Strand (2013)	18 field instructors working with youth populations	Use of online journals and PracticeWise (self-reported)	Knowledge measured by the KEBSQ Attitudes measured by the EBPAS	Knowledge increase was associated with PracticeWise use Attitude increase was associated with MATCH use
Lewis & Simons (2011)	24 therapists from five community agencies in Oregon	Implementation of CBT in practice (self-reported)	Barriers to implementation	Perceived client and setting barriers were significantly negatively correlated with usage

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
			Age Sex Experience Discipline Theoretical orientation Previous exposure to CBT Attitudes measured by the MPAS Readiness for change measured by the ORC	
Lopez et al. (2010)	59 community therapists mandated to use EBP in Texas	EBP use measured by the TPC-R	Previous training	Reported increase in use of EBP was significantly related to previous training in behavioral parent training
Nelson & Steele (2007)	214 mental health practitioners in 15 different states	"How often do you use 'evidence-based practices' in your clinical work?" (Never/almost never, sometimes, often, always/almost always)	Theoretical orientation	Cognitive-behavioral or behavioral orientation reported higher use of EBP
			Clinical setting	Hospital or university clinics reported higher use of EBP
			Taking a class in EBP	When controlling for theoretical orientation and clinical setting, taking a class in EBP predicted EBP use (7.4% of variance)
			Openness of clinical setting to EBP	When controlling for theoretical orientation and clinical setting, perceived openness of the clinical

Study	Sample	EBP Usage Defined	Therapist Characteristics Examined	Findings
				setting predicted EBP use (13.5% of variance)
			Attitudes toward treatment research	When controlling for theoretical orientation and clinical setting, attitudes (both positive and negative) predicted EBP use (21.3%) Positive attitudes had the strongest relationship with EBP use when all significant variables were included in the model
			Degree	

Table 2.

Therapist background information

Most Advanced Educational Degree	*n*	Percentage
Associates or Bachelor Degrees	1	2.2
Masters-level degrees (e.g., M.Ed., MSW, LCSW, M.A., M.S., R.N., L.P.N.)	39	84.7
Doctoral Student, Intern, Psy.D., Ph.D., M.D.	6	13
Professional Disciplines		
Counseling Psychology	15	34.9
Marriage & Family Therapy	12	27.9
Social Work	9	20.9
Psychology or Psychiatry	6	14
Substance Abuse Counselor	1	2.3
Missing	3	7
Theoretical Orientation		
Cognitive or Cognitive-Behavioral	43	93.5
Behavioral	41	89.1
Systems or Family-Systems	34	73.9
Humanistic	27	58.7
Eclectic	15	32.6
Psychoanalytic	14	30.4
Existential	10	21.7
Other	9	19.6
Primary Clinical Setting		
Out of home	7	15.6
Intensive in-home and community	34	75.6
Outpatient	1	2.2
School-based	1	2.2
Other	2	4.4
Missing	1	2.3

Note. Therapists were asked to endorse all theoretical orientations, not just one

Table 3.

Youth diagnostic information (n = 472)

Diagnostic Categories	Primary N (%)	Any N (%)
Anxiety	32 (6.7)	39 (8.2)
Generalized anxiety disorder	6 (1.3)	9 (1.9)
Obsessive compulsive disorder	7 (1.5)	2 (0.4)
Panic disorder	--	1 (0.2)
Panic disorder with agoraphobia	1 (0.2)	--
Social anxiety disorder	7 (1.5)	4 (0.8)
Separation Anxiety Disorder	2 (0.4)	2 (0.4)
Unspecified anxiety disorder	9 (1.9)	21 (4.5)
Attentional	91 (19.3)	70 (14.8)
Attention-Deficit/Hyperactivity Disorder-Combined Type	65 (13.8)	40 (8.4)
Attention-Deficit/Hyperactivity Disorder-NOS	9 (1.9)	8 (1.7)
Attention-Deficit/Hyperactivity Disorder-Predominantly Inattentive Type	17 (3.6)	22 (4.7)
Autism	8 (1.7)	5 (1)
Asperger's/Retts/Pervasive Developmental Disorder NOS	2 (0.4)	1 (0.2)
Autism Spectrum Disorder	6 (1.3)	4 (0.8)
Disruptive	112 (23.7)	101 (21.4)
Conduct Disorder	49 (10.4)	26 (5.5)
Impulse Control Disorder NOS	1 (0.2)	2 (0.4)
Intermittent Explosive Disorder	3 (0.6)	1 (0.2)
Oppositional Defiant Disorder	45 (9.5)	67 (14.2)
Unspecified Disruptive, Impulse-Control, and Conduct Disorder	14 (3)	5 (1)
Eating	--	1 (0.2)
Binge Eating Disorder	--	1 (0.2)
Elimination	--	9 (1.8)
Encopresis	--	3 (0.6)
Enuresis	--	4 (0.8)
Other Specified Elimination Disorder with Fecal Symptoms	--	2 (0.4)
Bipolar	14 (2.9)	2 (< 1)

Diagnostic Categories	Primary N (%)	Any N (%)
Bipolar I Disorder, Recent Episode Mixed-Moderate	1 (0.2)	--
Bipolar I Disorder, Recent Episode Depressed-Severe	1 (0.2)	--
Bipolar I Disorder, Recent Episode Manic-with Psychotic Features	1 (0.2)	--
Bipolar I Disorder, Recent Episode Unspecified	1 (0.2)	--
Bipolar I Disorder, Single Episode Manic Unspecified	1 (0.2)	--
Schizoaffective Disorder, Bipolar Type	2 (0.4)	1 (0.2)
Unspecified Bipolar and Related Disorder	6 (1.3)	1 (0.2)
Cyclothymic Disorder	1 (0.2)	--
Mood	52 (11.0)	54 (11.4)
Major Depressive Disorder, Recurrent-Moderate	4 (0.8)	6 (1.3)
Major Depressive Disorder, Recurrent-Severe	3 (0.6)	2 (0.4)
Major Depressive Disorder, Recurrent-Unspecified	4 (0.8)	2 (0.8)
Major Depressive Disorder, Recurrent-with Psychotic Features	5 (1.1)	--
Major Depressive Disorder, Recurrent-Partial Remission	1 (0.2)	--
Major Depressive Disorder, Single Episode-Moderate	11 (2.3)	3 (0.6)
Major Depressive Disorder, Single Episode-Partial Remission	--	1 (0.2)
Major Depressive Disorder, Single Episode-Severe	3 (0.6)	1 (0.2)
Major Depressive Disorder, Single Episode-Unspecified	2 (0.4)	2 (0.4)
Mood Disorder NOS	12 (2.5)	8 (1.7)
Persistent Depressive Disorder (Dysthymia)	--	14 (2.9)
Unspecified Depressive Disorder	7 (1.5)	15 (3.1)
Neurodevelopmental	8 (1.6)	17 (3.4)
Developmental Coordination Disorder	1 (0.2)	1 (0.2)
Expressive Language Disorder	--	2 (0.4)
Intellectual Disability-Moderate	1 (0.2)	--
Social (Pragmatic) Communication Disorder	--	1 (0.2)
Specific Learning Disorder with Impairment in Mathematics	--	3 (0.6)
Specific Learning Disorder with Impairment in Reading	1 (0.2)	4 (0.8)
Specific Learning Disorder with Impairment in Written Expression	--	1 (0.2)
Unspecified Communication Disorder	--	1 (0.2)
Unspecified Intellectual Disability	3 (0.6)	--

Diagnostic Categories	Primary N (%)	Any N (%)
Unspecified Neurodevelopmental Disorder	2 (0.4)	4 (0.8)
Other	11 (2.3)	17 (3.4)
Depersonalization/Derealization Disorder	1 (0.2)	--
Disorder of Infancy/Childhood/Adolescent NOS	1 (0.2)	--
Gender Dysphoria	--	1 (0.2)
Non-Rapid Eye Movement Sleep Arousal Disorder-Sleepwalking or Sleep Terror Type	--	1 (0.2)
Physical/Sexual Abuse or Neglect of Child	6 (1.3)	14 (3)
Unspecified Dissociative Disorder	1 (0.2)	--
Unspecified Mental Disorder	--	1 (0.2)
Unspecified Mental Disorder due to Another Medical Condition	1 (0.2)	--
Vaginismus	1 (0.2)	--
Personality	1 (0.2)	2 (0.4)
Borderline Personality Disorder	--	1 (0.2)
Personality Change Due to Another Medical Condition	--	1 (0.2)
Unspecified Personality Disorder	1 (0.2)	
Psychosis	7 (1.4)	4 (0.8)
Delusional Disorder	--	1 (0.2)
Schizophrenia, Disorganized Type	1 (0.2)	--
Schizophrenia, Paranoid Type	3 (0.6)	--
Unspecified Schizophrenia Spectrum and Other Psychotic Disorder	3 (0.6)	3 (0.6)
Substance	14 (2.8)	73 (14.3)
Alcohol Use Disorder-Mild	2 (0.4)	16 (3.4)
Alcohol Use Disorder-Moderate or Severe	--	3 (0.6)
Caffeine Intoxication	2 (0.4)	3 (0.6)
Cannabis Use Disorder-Mild	2 (0.4)	31 (6.5)
Cannabis Use Disorder- Moderate or Severe	4 (0.8)	7 (1.5)
Polysubstance Dependence	--	5 (1)
Stimulant Use Disorder, Amphetamine Type-Mild	1 (0.2)	2 (0.4)
Stimulant Use Disorder, Amphetamine Type-Moderate or Severe	--	1 (0.2)
Stimulant Use Disorder, Cocaine-Moderate or Severe	--	1 (0.2)
Substance Intoxication	--	1 (0.2)

Diagnostic Categories	Primary N (%)	Any N (%)
Substance Withdrawal	--	1 (0.2)
Substance-Induced Depressive Disorder	3 (0.6)	--
Substance-Related Disorder, Unspecified	--	1 (0.2)
Tobacco-Use Disorder-Mild, Moderate, or Severe	--	1 (0.2)
Tic	--	3 (0.6)
Persistent (Chronic) Motor or Vocal Tic Disorder	--	1 (0.2)
Tourette's Disorder	--	2 (0.4)
Trauma	89 (18.9)	60 (12.7)
Adjustment Disorder with Anxiety	4 (0.8)	4 (0.8)
Adjustment Disorder with Depressed Mood	5 (1.1)	1 (0.2)
Adjustment Disorder with Disturbance of Conduct	3 (0.6)	1 (0.2)
Adjustment Disorder with Mixed Anxiety and Depressed Mood	4 (0.8)	4 (0.8)
Adjustment Disorder with Mixed Disturbance of Emotions and Conduct	24 (5.1)	10 (2.1)
Adjustment Disorder, Unspecified	2 (0.4)	2 (0.4)
Posttraumatic Stress Disorder	38 (8.1)	27 (5.7)
Reactive Attachment Disorder	9 (1.9)	11 (2.3)
V-codes	--	31 (6.2)
Academic or Educational Problem	--	2 (0.4)
Encounter for Mental Health Services for Victim of Parent or Non-Parental Child Physical, Sexual, or Psychological Abuse, or Neglect	--	5 (1)
Parent-Child Relational Problem	--	17 (3.6)
Relational Problem NOS	--	1 (0.2)
Sibling Relational Problem	--	3 (0.6)
Uncomplicated Bereavement	--	2 (0.4)
No Diagnosis	1 (0.2)	1 (0.2)

Note. The Primary column refers to youth primary diagnosis; Any refers to diagnostic categories other than primary diagnosis; NOS = not otherwise specified

Table 4.

Knowledge of Evidence-Based Services Questionnaire Items, Scoring, and Frequency Per Problem Area

KEBSQ Item #	KEBSQ Item #	KEBSQ Item	KEBSQ Description	2015 Scoring	A	D	B	H
1	1	Exposure	Introducing the child to a stimulus, either directly or through imagined experience, with the aim of decreasing the child's fear of the object or situation.	A	86	0	3	0
31	2	Cognitive	Using strategies designed to evaluate the accuracy and/or alter the interpretations of the child's thoughts.	A, D, B	54	75	35	3
6	3	Psychoeducation-Child	Teaching the child about how problems develop and the rationale for treatment.	A, D	45	70	15	5
3	4	Relaxation	Teaching the child calming techniques, such as muscle relaxation, breathing exercises, meditation, and similar activities, with the goal of reducing physiological arousal.	A, D	44	30	14	17
11	5	Psychoeducation-Parent	Teaching the parent(s) about how problems develop and the rationale for treatment.	A, D, B, H	32	40	42	42
7	6	Activity Selection	Encouraging the child to participate in pleasurable activities on a regular basis.	D	1	60	4	0
29	7	Maintenance/Relapse Prevention	Strengthening skills already developed and anticipating future challenges to minimize the chance that therapeutic gains will be lost.	D	27	58	28	7
35	8	Problem Solving	Teaching the child to solve problems by outlining steps, such as identifying the problem, generating multiple solutions, and selecting the best alternative.	D, B, H	23	50	52	38
14	9	Praise	Training the parent(s) to provide social rewards, such as praise, encouragement, and affection, to promote desired behaviors.	B, H	13	0	64	52
13	10	Tangible Rewards	Teaching the parent(s) to provide tangible rewards as reinforcement for desired behaviors.	B, H	20	8	56	47
36	11	Time Out	Using time out as a consequence for engaging in an undesirable behavior.	B	2	0	45	28

KEBSQ Item #	KEBSQ Item #	KEBSQ Item	KEBSQ Description	2015 Scoring	A	D	B	H
10	12	Commands	Training the parent(s) to give directions and commands effectively.	B, H	1	0	44	33

Note. A = Anxiety/Avoidance, D = Depressed/Withdrawn, B = Disruptive Behavior, H = Attention/Hyperactivity; KEBSQ scoring reflective of PDE definition corresponding to a practice being endorsed in 30% or more Level 1 or 2 study groups as determined by PracticeWise, LLC (2015)

Table 5.

Treatment target endorsement across all MTPS (n = 2976)

Description	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8	Target 9	Target 10	Total	%
Anxiety/Avoidance												
Anxiety	222	115	77	125	16	27	12	--	2	2	598	20.09%
Avoidance	15	14	13	5	--	2	--	1	4	--	54	1.81%
Phobia or Fears	9	59	67	66	29	12	9	9	1	2	263	8.84%
Shyness	1	2	6	--	--	--	1	--	1	--	11	0.37%
Depressed/Withdrawn												
Depressed Mood	126	109	104	75	81	5	14	1	--	--	515	17.31%
Grief	8	2	11	4	4	1	--	5	--	--	35	1.18%
Suicidality	6	7	17	9	7	8	1	1	2	--	58	1.95%
Disruptive Behavior												
Aggression	188	234	56	27	17	18	13	35	9	16	613	20.60%
Anger	192	135	165	33	22	4	6	11	--	1	569	19.12%
Fire Setting	--	--	--	1	--	--	--	--	--	--	1	0.03%
Oppositional or Non-Compliant Behavior	200	367	211	131	140	73	23	6	15	11	1177	39.55%
Runaway	41	31	36	13	21	32	5	9	--	--	188	6.32%
Sexual Variation or Misconduct	5	9	8	16	6	7	2	--	3	--	56	1.88%
Willful Misconduct or Delinquency	10	19	35	19	26	12	3	--	--	--	124	4.17%
Attention/Hyperactivity												
Attention Problems	63	82	38	18	10	10	13	5	1	16	256	8.60%
Hyperactivity	53	42	46	46	4	20	7	--	--	--	218	7.33%

Description	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8	Target 9	Target 10	Total	%
Other												
Academic Achievement	59	39	46	42	12	15	11	4	3	--	231	7.76%
Activity Involvement	444	140	80	67	36	20	3	--	4	1	795	26.71%
Assertiveness	20	47	34	8	16	6	18	11	5	--	165	5.54%
Cognitive Intellectual Functioning	1	2	1	1	--	--	--	--	--	--	5	0.17%
Community Involvement	16	18	36	54	23	6	5	40	2	--	200	6.72%
Contentment or Enjoyment or Happiness	6	11	11	8	3	1	14	2	--	--	56	1.88%
Eating or Feeding Problems	--	1	4	3	5	--	--	--	--	--	13	0.44%
Empathy	--	13	26	12	24	--	--	--	--	--	75	2.52%
Enuresis or Encopresis	22	11	6	--	--	7	--	--	--	7	53	1.78%
Gender Identity Problems	2	1	--	1	--	2	--	--	--	--	6	0.20%
Health Management	10	5	10	6	7	2	1	--	--	--	41	1.38%
Learning Disorder or Underachievement	1	2	--	--	--	--	1	--	--	--	4	0.13%
Self Esteem	5	37	53	26	34	3	5	16	2	--	181	6.08%
Mania	1	5	4	1	1	10	--	--	--	--	22	0.74%
Medical Regimen Adherence	11	8	6	17	5	5	12	4	--	--	68	2.28%
Peer Involvement	5	23	10	16	5	7	1	--	1	1	69	2.32%
Peer or Sibling Conflict	16	53	106	43	44	46	32	3	1	--	344	11.56%
Personal Hygiene	1	11	4	1	4	--	--	--	--	--	21	0.71%
Positive Family Functioning	3	21	9	6	3	7	1	--	--	--	50	1.68%
Positive Peer Interaction	314	298	379	202	145	91	100	38	4	7	1578	53.02%
Positive Thinking or Attitude	9	31	22	47	28	15	7	3	11	1	174	5.85%
Psychosis	3	6	8	5	3	1	--	--	--	--	26	0.87%

Description	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8	Target 9	Target 10	Total	%
School Involvement	28	45	33	21	18	5	8	4	7	2	171	5.75%
School Attendance or Truancy	34	57	58	33	23	21	2	4	14	4	250	8.40%
Self Management or Self Control	25	24	50	63	5	7	11	1	1	--	187	6.28%
Self Injurious Behavior	30	34	55	50	52	32	11	20	12	4	300	10.08%
Sleep Disturbance or Sleep Hygiene	--	1	3	--	3	2	1	--	--	--	10	0.34%
Social Skills	42	72	105	118	97	45	46	28	9	5	567	19.05%
Speech and Language	--	4	5	2	--	1	--	--	--	--	12	0.40%
Substance Use	39	47	100	63	46	12	11	5	--	1	324	10.89%
Traumatic Stress	34	38	69	22	13	20	20	11	38	3	268	9.01%
Treatment Engagement	251	140	74	65	109	27	29	29	6	12	742	24.93%
Other	249	205	182	121	84	33	22	23	56	26	1001	33.64%
Adaptive Behavior or Living Skills*	25	29	12	23	15	14	--	4	2	--	124	4.17%
Adjustment to Change*	117	50	45	24	13	12	5	--	--	1	267	8.97%
Housing or Living Situation*	31	16	16	11	10	6	12	--	1	--	103	3.46%
Occupational Functioning Or Stress*	1	--	4	2	4	10	1	--	--	--	22	0.74%
Pregnancy Education or Adjustment*	--	--	1	--	1	--	--	--	--	--	2	0.07%
None	--	204	419	1204	1702	2254	2477	2643	2759	2853	16515	

Note. MTPS = Monthly Treatment Progress Summary; therapists are allowed to endorse up to ten treatment targets per MTPS; * denotes treatment targets that were "Other" write in options that occurred frequently within the sample.

Table 6.

Practice element endorsement across all MTPS (n = 2976)

Description	Frequency	%
12 PDE Criterion Variables		
Exposure	446	14.99%
Cognitive	1042	35.01%
Psychoeducational Child	1059	35.58%
Relaxation	744	25.00%
Psychoeducational Parent	1209	40.63%
Activity Scheduling	1067	35.85%
Maintenance or Relapse Prevention	141	4.74%
Problem Solving	1572	52.82%
Parent or Teacher Praise	577	19.39%
Tangible Rewards	463	15.56%
Time Out	126	4.23%
Commands	274	9.21%
Other		
Assertiveness Training	483	16.23%
Attending	377	12.67%
Behavioral Contracting	595	19.99%
Biofeedback or Neurofeedback	0	0.00%
Care Coordination	1037	34.85%
Catharsis	33	1.11%
Communication Skills	1527	51.31%
Crisis Management	420	14.11%
Cultural Training	30	1.01%
Discrete Trial Training	2	0.07%
Educational Support	612	20.56%
Emotional Processing	1001	33.64%
Eye Movement or Tapping	98	3.29%
Family Engagement	1200	40.32%
Family Therapy	1087	36.53%
Free Association	18	0.60%
Functional Analysis	99	3.33%
Goal Setting	1231	41.36%
Guided Imagery	99	3.33%
Hypnosis	2	0.07%
Ignoring or Differential Reinforcement of Other Behavior	452	15.19%
Individual Therapy for Caregiver	234	7.86%
Insight Building	1128	37.90%
Interpretation	159	5.34%
Line of Sight Supervision	475	15.96%

Description	Frequency	%
Marital Therapy	6	0.20%
Medication or Pharmacotherapy	248	8.33%
Mentoring	594	19.96%
Milieu Therapy	91	3.06%
Mindfulness	616	20.70%
Modeling	1388	46.64%
Motivational Interviewing	933	31.35%
Natural and Logical Consequences	1111	37.33%
Parent Coping	1055	35.45%
Parent or Teacher Monitoring	465	15.63%
Peer Pairing	48	1.61%
Personal Safety Skills	452	15.19%
Physical Exercise	513	17.24%
Play Therapy	346	11.63%
Relationship or Rapport Building	1219	40.96%
Response Cost	151	5.07%
Response Prevention	120	4.03%
Self Monitoring	476	15.99%
Self Reward or Self Praise	365	12.26%
Skill Building	1117	37.53%
Social Skills Training	1030	34.61%
Stimulus Control or Antecedent Man	152	5.11%
Supportive Listening or Client Centered	1742	58.53%
Therapist Praise or Rewards	1221	41.03%
Thought Field Therapy	0	0.00%
Twelve Step Program	5	0.17%
Other	535	17.98%

Note. MTPS = Monthly Treatment Progress Summary; PDE = Practice derived from the evidence-base

Table 7.

PDE Model 1: Therapist knowledge and attitude variables

#	Problem Area	Predictors				Outcome
		Level 2 Therapist		Level 1 Youth		
		Knowledge	Attitudes	Demographic	Technique Endorsed on MTPS	"Hit" variable defined
1	A	KEBSQ01A REBPPAS total	EBPAS50 total		Exposure	Within MTPS, predictive hit of using Exposure
2	A, D, B	KEBSQ02A KEBSQ02D KEBSQ02B REBPPAS total	EBPAS50 total		Cognitive	Within MTPS, predictive hit of using Cognitive
3	A, D	KEBSQ03A KEBSQ03D REBPPAS total	EBPAS50 total		Psychoeducation-Child	Within MTPS, predictive hit of using Psychoeducation-Child
4	A, D	KEBSQ04A KEBSQ04D REBPPAS total	EBPAS50 total		Relaxation	Within MTPS, predictive hit of using Relaxation
5	A, D, B, H	KEBSQ05A KEBSQ05D KEBSQ05B KEBSQ05H REBPPAS total	EBPAS50 total		Psychoeducation-Parent	Within MTPS, predictive hit of using Psychoeducation-Parent
6	D	KEBSQ06D REBPPAS total	EBPAS50 total		Activity Selection	Within MTPS, predictive hit of using Activity Selection
7	D	KEBSQ07D REBPPAS total	EBPAS50 total		Maintenance/ Relapse Prevention	Within MTPS, predictive hit of using Maintenance/Relapse Prevention
8	D, B, H	KEBSQ08D	EBPAS50 total		Problem Solving	Within MTPS, predictive hit

#	Problem Area	Predictors				Outcome
		Level 2 Therapist		Level 1 Youth		
		Knowledge	Attitudes	Demographic	Technique Endorsed on MTPS	"Hit" variable defined
		KEBSQ08B KEBSQ08H REBPPAS total				of using Problem Solving
9	B, H	KEBSQ09B KEBSQ09H REBPPAS total	EBPAS50 total		Praise	Within MTPS, predictive hit of using Praise
10	B, H	KEBSQ10B KEBSQ10H REBPPAS total	EBPAS50 total		Tangible Rewards	Within MTPS, predictive hit of using Tangible Rewards
11	B	KEBSQ11B REBPPAS total	EBPAS50 total		Time Out	Within MTPS, predictive hit of using Time Out
12	B, H	KEBSQ12B KEBSQ12H REBPPAS total	EBPAS50 total		Commands	Within MTPS, predictive hit of using Commands

Note. KEBSQ = Knowledge of Evidence-Based Services Questionnaire, A = Anxiety/Avoidance, D = Depressed/Withdrawn, B = Disruptive Behavior, H = Attention/Hyperactivity, REBPPAS = Revised Evidence-Based Practice Process Assessment Scale, EBPAS50 = Evidence-Based Practice Attitudes Scale-50, MTPS = Monthly Treatment Progress Summary

Table 8.

PDE Model 2: Therapist knowledge, attitudes, demographic variables, and youth demographic variables

#	Area	Predictors				Outcome
		Level 2 Therapist		Level 1 Youth		
		Knowledge	Attitudes	Demographic	Technique endorsed on MTPS	"Hit" variable defined
1	A	KEBSQ01A REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Exposure	Within MTPS, predictive hit of using Exposure
2	A, D, B	KEBSQ02A KEBSQ02D KEBSQ02B REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Cognitive	Within MTPS, predictive hit of using Cognitive
3	A, D	KEBSQ03A KEBSQ03D REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Psychoeducation-Child	Within MTPS, predictive hit of using Psychoeducation-Child
4	A, D	KEBSQ04A KEBSQ04D REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Relaxation	Within MTPS, predictive hit of using Relaxation
5	A, D, B,	KEBSQ05A	EBPAS50	Clinical training years	Psychoeducation-	Within MTPS,

#	Area	Predictors				Outcome	
		Level 2 Therapist			Level 1 Youth		
		Knowledge	Attitudes	Demographic		Technique endorsed on MTPS	"Hit" variable defined
	H	KEBSQ05D KEBSQ05B KEBSQ05H REBPPAS total	total	Primary specialty Theoretical orientation Degree Age Months with youth		Parent	predictive hit of using Psychoeducation-Parent
6	D	KEBSQ06D REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth		Activity Selection	Within MTPS, predictive hit of using Activity Selection
7	D	KEBSQ07D REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth		Maintenance/ Relapse Prevention	Within MTPS, predictive hit of using Maintenance/Relapse Prevention
8	D, B, H	KEBSQ08D KEBSQ08B KEBSQ08H REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Age	Problem Solving	Within MTPS, predictive hit of using Problem Solving
9	B, H	KEBSQ09B KEBSQ09H REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age	Age	Praise	Within MTPS, predictive hit of using Praise

#	Area	Predictors				Outcome	
		Level 2 Therapist			Level 1 Youth		
		Knowledge	Attitudes	Demographic		Technique endorsed on MTPS	"Hit" variable defined
				Months with youth			
10	B, H	KEBSQ10B KEBSQ10H REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth		Tangible Rewards	Within MTPS, predictive hit of using Tangible Rewards
11	B	KEBSQ11B REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Age	Time Out	Within MTPS, predictive hit of using Time Out
12	B, H	KEBSQ12B KEBSQ12H REBPPAS total	EBPAS50 total	Clinical training years Primary specialty Theoretical orientation Degree Age Months with youth	Age	Commands	Within MTPS, predictive hit of using Commands

Note. KEBSQ = Knowledge of Evidence-Based Services Questionnaire, A = Anxiety/Avoidance, D = Depressed/Withdrawn, B = Disruptive Behavior, H = Attention/Hyperactivity, REBPPAS = Revised Evidence-Based Practice Process Assessment Scale, EBPAS50 = Evidence-Based Practice Attitudes Scale-50, MTPS = Monthly Treatment Progress Summary

Table 9.

PDE and hit frequency with no predictor model ICCs

	Count	Hit	%	Wald's Z	SE	Estimate	*p*	ICC
Exposure	446	237	53.1%	3.24	1.32	4.26	.00	0.50
Cognitive	1042	939	90.1%	3.95	1.56	6.15	< .00	0.55
Psychoeducation-Child	1059	530	50.1%	3.52	0.93	3.29	< .00	0.52
Relaxation	744	359	48.3%	3.47	0.73	2.51	.00	0.51
Psychoeducation-Parent	1209	912	75.4%	3.97	0.94	3.72	< .00	0.55
Activity Selection	1067	276	25.9%	2.92	1.70	4.96	.00	0.47
Maintenance/Relapse Prevention	141	31	22.0%	2.10	1.11	2.33	.04	0.39
Problem Solving	1572	1213	77.2%	4.09	0.74	3.03	< .00	0.55
Praise	577	414	71.8%	3.80	0.86	3.28	< .00	0.54
Tangible Rewards	463	348	75.2%	3.66	0.85	3.09	< .00	0.53
Time Out	126	107	84.9%	3.34	0.85	2.84	.00	0.50
Commands	274	227	82.9%	3.52	1.69	5.95	< .00	0.52

Note. ICC = intraclass correlation; Count refers to the frequency of PDE endorsement; Hit refers to the frequency of PDE hit variable; % refers to the percentage of hit variables divided by the frequency of PDE endorsement.

Table 10.

Means (SD) for therapist knowledge and attitude measures

	# of items	Min	Max	Mean	SD
KEBSQ					
Total	12	16	41	31.78	5.85
Exposure	1	1	4	3.63	0.68
Cognitive	1	0	4	2.39	1.00
Psychoeducation-Child	1	0	4	2.26	0.98
Relaxation	1	0	4	2.3	1.28
Psychoeducation-Parent	1	0	4	2.85	1.55
Activity Selection	1	1	4	2.48	1.33
Maintenance/Relapse Prevention	1	0	4	2.04	1.25
Problem Solving	1	0	4	2.3	1.38
Praise	1	1	4	2.89	0.88
Tangible Rewards	1	1	4	3.09	0.65
Time Out	1	1	4	3.08	0.78
Commands	1	1	4	2.96	0.87
R-EBPPAS					
Total	45	110	206	163.86	21.19
Familiarity	10	25	50	39.17	5.62
Attitudes	14	36	68	51.65	7.21
Feasibility	5	10	24	17.96	3.17
Intentions	8	12	40	28.04	6.16
Behavior	8	12	40	27.04	6.32
EBPAS-50					
Total	50	1.36	2.62	2.22	0.25
Requirements	3	1.00	4.00	2.99	0.79
Appeal	4	1.75	4.00	3.05	0.58
Openness	4	1.00	4.00	2.6	0.6
Divergence	4	0.75	4.00	2.91	0.74
Limitations	7	0.71	4.00	3.1	0.81
Fit	7	2.00	4.00	3.37	0.56
Monitoring	4	1.00	4.00	3.11	0.87
Competence	4	0.25	3.25	1.59	0.69
Burden	4	1.00	4.00	3.21	0.76
Job Security	3	0.00	4.00	2.15	1.21
Organizational Support	3	0.00	4.00	2.96	0.96
Feedback	3	2.00	4.00	3.41	0.68

Note. KEBSQ = Knowledge of Evidence-Based Services Questionnaire; R-EBPPAS = Revised Evidence-Based Practice Process Assessment Scale; EBPAS-50 = Evidence-Based Services Questionnaire-50

Table 11.

Frequency and percentage of correct KEBSQ responses

	Frequency	%
Exposure		
Anxiety/Avoidance	41	89.1
Cognitive		
Anxiety/Avoidance	27	58.7
Depressed/Withdrawn	31	67.4
Disruptive Behavior	18	39.1
Psychoeducation-Child		
Anxiety/Avoidance	25	54.3
Depressed/Withdrawn	24	52.2
Relaxation		
Anxiety/Avoidance	35	76.1
Depressed/Withdrawn	14	30.4
Psychoeducation-Parent		
Anxiety/Avoidance	32	69.6
Depressed/Withdrawn	30	65.2
Disruptive Behavior	39	84.8
Attention/Hyperactivity	30	65.2
Activity Selection		
Depressed/Withdrawn	42	91.3
Maintenance/Relapse Prevention		
Depressed/Withdrawn	22	47.8
Problem Solving		
Depressed/Withdrawn	17	37.0
Disruptive Behavior	33	71.7
Attention/Hyperactivity	28	60.9
Praise		
Disruptive Behavior	42	91.3
Attention/Hyperactivity	30	65.2
Tangible Rewards		
Disruptive Behavior	41	89.1
Attention/Hyperactivity	31	67.4
Time Out		
Disruptive Behavior	36	78.3
Commands		
Disruptive Behavior	39	84.8
Attention/Hyperactivity	31	67.4

Note. KEBSQ = Knowledge of Evidence-Based Services Questionnaire; all KEBSQ problem area specific items are scores dichotomously (1 = yes, 0 = no).

Table 12.

Akaike Information (AIC) and Bayesian Information(BIC) Criterion for MLM Models 1 and 2

	AIC		BIC	
	Model 1	Model 2	Model 1	Model 2
Exposure				
Anxiety/Avoidance	403.57	657.34	422.67	685.34
Cognitive				
Anxiety/Avoidance	1407.08	1809.27	1429.97	1848.84
Depressed/Withdrawn	1288.47	1653.89	1311.36	1693.46
Disruptive Behavior	1323.87	1777.97	1346.76	1817.54
Psychoeducation-Child				
Anxiety/Avoidance	583.47	949.12	603.67	983.64
Depressed/Withdrawn	587.05	951.12	607.24	985.64
Relaxation				
Anxiety/Avoidance	565.23	779.09	585.43	813.62
Depressed/Withdrawn	528.94	780.68	549.13	815.21
Psychoeducation-Parent				
Anxiety/Avoidance	1097.60	1740.28	1120.59	1780.05
Depressed/Withdrawn	1099.01	1739.08	1122.00	1778.85
Disruptive Behavior	1094.15	1744.93	1117.14	1784.70
Attention/Hyperactivity	1031.78	1690.54	1054.77	1730.31
Activity Selection				
Depressed/Withdrawn	387.09	406.40	404.33	431.55
Maintenance/Relapse Prevention				
Depressed/Withdrawn	84.93	151.43	102.17	180.73
Problem Solving				
Depressed/Withdrawn	1041.67	2492.68	1064.24	2537.37
Disruptive Behavior	1091.63	2583.06	1114.20	2627.74
Attention/Hyperactivity	1095.95	2595.24	1118.52	2639.92
Praise				
Disruptive Behavior	783.59	1829.35	805.65	1873.18
Attention/Hyperactivity	775.98	1867.85	798.04	1867.68
Tangible Rewards				
Disruptive Behavior	579.84	1100.78	601.91	1139.14
Attention/Hyperactivity	567.29	1089.39	589.35	1127.75

	AIC		BIC	
	Model 1	Model 2	Model 1	Model 2
Time Out				
Disruptive Behavior	291.91	623.87	313.71	667.21
Commands				
Disruptive Behavior	905.14	1062.51	927.21	1106.34
Attention/Hyperactivity	842.98	977.88	865.04	1021.71

Note. KEBSQ = Knowledge of Evidence-Based Services Questionnaire; A = Anxiety/Avoidance, D = Depressed/Withdrawn, B = Disruptive Behavior, H = Attention/Hyperactivity

Table 13.

Generalized Mixed Model Results for Exposure

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	884	-26.07	36099.22	-0.00	1.00	0.00
KEBSQ 1A (848, 95.9%)	884	21.79	36099.22	0.00	1.00	2.9*10^9
R-EBPPAS total	884	-0.02	0.01	-1.41	0.17	0.99
EBPAS-50 total	884	2.66	1.40	1.90	0.07	14.24
Model 2: Knowledge, attitude, and demographic variables						
Intercept	799	-1.13	1.53	-0.74	0.46	0.32
R-EBPPAS total	799	-0.01	0.01	-2.22	0.03	0.99
EBPAS-50 total	799	1.83	0.67	2.74	0.01	6.22
Years of Training	799	-0.07	0.04	-1.62	0.10	0.93
Therapist Age	799	-0.07	0.02	-3.96	0.00	0.94
Therapist months with youth	799	0.05	0.01	4.38	0.00	1.05

Note. Exposure is a practice derived from the evidence base for Anxiety/Avoidance (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50; KEBSQ Exposure knowledge score removed from Model 2 due to low variability within predictor variable.

Table 14.

Generalized Mixed Model Results for Cognitive

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	2267	3.71	2.50	1.49	0.14	41.00
KEBSQ 2A (1264, 55.8%)	2267	0.07	0.45	0.15	0.88	1.07
R-EBPPAS total	2267	0.00	0.01	0.02	0.98	1.00
EBPAS-50 total	2267	-1.87	1.26	-1.48	0.15	0.16
Intercept	2267	4.70	2.62	1.80	0.08	110.42
KEBSQ 2D (1649, 72.7%)	2267	-1.13	0.51	-2.21	0.03	0.32
R-EBPPAS total	2267	-0.01	0.01	-0.70	0.49	0.99
EBPAS-50 total	2267	-1.28	1.30	-0.99	0.33	0.33
Intercept	2267	3.06	2.41	1.27	0.21	21.33
KEBSQ 2B (1154, 50.9%)	2267	0.82	0.45	1.83	0.07	2.28
R-EBPPAS total	2267	0.01	0.01	0.43	0.67	1.01
EBPAS-50 total	2267	-2.11	1.24	-1.71	0.10	0.12
Model 2: Knowledge, attitude, and demographic variables						
Intercept	2123	9.05	1.01	9.00	0.00	8550.81
KEBSQ 2A	2123	-0.01	0.14	-0.05	0.96	0.99
R-EBPPAS total	2123	0.00	0.00	1.13	0.26	1.00
EBPAS-50 total	2123	-3.43	0.42	-8.11	0.00	0.03
Years of Training	2123	-0.02	0.03	-0.78	0.44	0.98
Therapist Age	2123	-0.08	0.01	-7.87	0.00	0.93
Therapist months with youth	2123	0.05	0.01	4.21	0.00	1.05
Intercept	2123	10.23	1.04	9.89	0.00	27834.38
KEBSQ 2D	2123	-1.41	0.17	-8.53	0.00	0.24
R-EBPPAS total	2123	-0.01	0.00	-1.27	0.20	0.99
EBPAS-50 total	2123	-2.79	0.42	-6.66	0.00	0.06
Years of Training	2123	-0.06	0.03	-2.14	0.03	0.94
Therapist Age	2123	-0.07	0.01	-7.63	0.00	0.93
Therapist months with youth	2123	0.05	0.01	4.13	0.00	1.05
Intercept	2123	7.71	1.05	7.34	0.00	2225.66
KEBSQ 2B	2123	0.62	0.16	3.81	0.00	1.85
R-EBPPAS total	2123	0.01	0.00	2.35	0.02	1.01
EBPAS-50 total	2123	-3.49	0.42	-8.27	0.00	0.03
Years of Training	2123	-0.07	0.03	-2.21	0.03	0.94
Therapist Age	2123	-0.06	0.01	-6.20	0.00	0.94
Therapist months with youth	2123	0.04	0.01	4.16	0.00	1.05

Note. Cognitive is a practice derived from the evidence base for Anxiety/Avoidance, Depressed/Withdrawn, and Disruptive Behavior (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 15.

Generalized Mixed Model Results for Psychoeducation-Child

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1161	-1.61	2.45	-0.66	0.52	0.20
KEBSQ 3A (824, 71%)	1161	0.96	0.47	2.06	0.05	2.61
R-EBPPAS total	1161	0.02	0.01	1.97	0.06	1.02
EBPAS-50 total	1161	-1.26	1.29	-0.97	0.34	0.29
Intercept	1161	-1.57	2.44	-0.64	0.53	0.21
KEBSQ 3D (819, 70.5%)	1161	0.92	0.46	1.98	0.06	2.50
R-EBPPAS total	1161	0.02	0.01	1.96	0.06	1.02
EBPAS-50 total	1161	-1.25	1.29	-0.97	0.34	0.29
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1041	-0.02	1.17	-0.02	0.99	0.98
KEBSQ 3A	1041	0.93	0.19	5.00	0.00	2.54
R-EBPPAS total	1041	0.01	0.00	3.03	0.00	1.01
EBPAS-50 total	1041	-0.98	0.51	-1.91	0.06	0.38
Years of Training	1041	0.10	0.03	3.16	0.00	1.10
Therapist Age	1041	-0.04	0.01	-3.39	0.00	0.96
Therapist months with youth	1041	0.04	0.01	3.76	0.00	1.04
Intercept	1041	-0.01	1.17	-0.01	1.00	0.99
KEBSQ 3D	1041	0.91	0.19	4.86	0.00	2.47
R-EBPPAS total	1041	0.01	0.00	3.01	0.00	1.01
EBPAS-50 total	1041	-0.98	0.51	-1.91	0.06	0.38
Years of Training	1041	0.10	0.03	3.17	0.00	1.10
Therapist Age	1041	-0.04	0.01	-3.37	0.00	0.96
Therapist months with youth	1041	0.04	0.01	3.92	0.00	1.04

Note. Psychoeducation-Child is a practice derived from the evidence base for Anxiety/Avoidance and Depressed/Withdrawn (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 16.

Generalized Mixed Model Results for Relaxation

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1161	-4.66	2.67	-1.75	0.09	0.01
KEBSQ 4A (923, 79.5%)	1161	1.26	0.69	1.82	0.08	3.53
R-EBPPAS total	1161	-0.01	0.01	-0.62	0.54	0.99
EBPAS-50 total	1161	1.85	1.41	1.31	0.20	6.36
Intercept	1161	-1.44	2.92	-0.49	0.62	0.24
KEBSQ 4D (480, 41.3%)	1161	1.28	0.49	2.64	0.01	3.59
R-EBPPAS total	1161	-0.00	0.01	-0.05	0.96	1.00
EBPAS-50 total	1161	0.06	1.53	0.04	0.97	1.06
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1041	-2.69	1.42	-1.90	0.06	0.07
KEBSQ 4A	1041	0.84	0.28	2.97	0.00	2.32
R-EBPPAS total	1041	0.01	0.00	2.06	0.04	1.01
EBPAS-50 total	1041	0.64	0.58	1.10	0.27	1.90
Years of Training	1041	-0.29	0.04	-6.71	0.00	0.75
Therapist Age	1041	-0.03	0.01	-2.52	0.01	0.97
Therapist months with youth	1041	0.02	0.01	1.51	0.13	1.02
Intercept	1041	-1.70	1.50	-1.13	0.26	0.18
KEBSQ 4D	1041	0.60	0.22	2.76	0.01	1.83
R-EBPPAS total	1041	0.02	0.01	3.04	0.00	1.02
EBPAS-50 total	1041	-0.08	0.63	-0.13	0.90	0.92
Years of Training	1041	-0.28	0.05	-6.08	0.00	0.76
Therapist Age	1041	-0.03	0.01	-1.84	0.07	0.98
Therapist months with youth	1041	0.02	0.01	1.33	0.18	1.02

Note. Relaxation is a practice derived from the evidence base for Anxiety/Avoidance and Depressed/Withdrawn (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 17.

Generalized Mixed Model Results for Psychoeducation-Parent

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	2328	-2.71	2.18	-1.24	0.22	0.07
KEBSQ 5A (1882, 80.8%)	2328	1.16	0.57	2.03	0.05	3.19
R-EBPPAS total	2328	0.02	0.01	1.60	0.12	1.02
EBPAS-50 total	2328	-0.69	1.13	-0.61	0.55	0.50
Intercept	2328	-2.67	2.17	-1.23	0.23	0.07
KEBSQ 5D (1871, 80.4%)	2328	1.14	0.56	2.03	0.05	3.12
R-EBPPAS total	2328	0.02	0.01	1.60	0.12	1.02
EBPAS-50 total	2328	-0.69	1.12	-0.61	0.54	0.50
Intercept	2328	-3.51	2.24	-1.57	0.12	0.03
KEBSQ 5B (2087, 89.6%)	2328	1.70	0.93	1.83	0.07	5.50
R-EBPPAS total	2328	0.02	0.01	1.36	0.18	1.02
EBPAS-50 total	2328	-0.43	1.11	-0.39	0.70	0.65
Intercept	2328	-2.11	2.13	-0.99	0.33	0.12
KEBSQ 5H (1752, 75.3%)	2328	1.43	0.53	2.70	0.01	4.18
R-EBPPAS total	2328	0.01	0.01	1.33	0.19	1.01
EBPAS-50 total	2328	-0.76	1.09	-0.69	0.49	0.47
Model 2: Knowledge, attitude, and demographic variables						
Intercept	2184	0.69	0.89	0.78	0.44	1.99
KEBSQ 5A	2184	1.05	0.19	5.61	0.00	2.86
R-EBPPAS total	2184	0.01	0.00	3.51	0.00	1.01
EBPAS-50 total	2184	-1.09	0.38	-2.85	0.00	0.34
Years of Training	2184	0.06	0.02	2.76	0.01	1.07
Therapist Age	2184	-0.06	0.01	-6.56	0.00	0.95
Therapist months with youth	2184	0.04	0.01	4.07	0.00	1.04
Intercept	2184	0.66	0.89	0.75	0.46	1.94
KEBSQ 5D	2184	1.04	0.18	5.67	0.00	2.83
R-EBPPAS total	2184	0.01	0.00	3.50	0.00	1.01
EBPAS-50 total	2184	-1.09	0.38	-2.84	0.01	0.34
Years of Training	2184	0.06	0.02	2.75	0.01	1.07
Therapist Age	2184	-0.06	0.01	-6.51	0.00	0.95
Therapist months with youth	2184	0.04	0.01	4.35	0.00	1.04
Intercept	2184	-0.13	0.91	-0.15	0.88	0.88
KEBSQ 5B	2184	1.46	0.29	5.01	0.00	4.32
R-EBPPAS total	2184	0.01	0.00	2.92	0.00	1.01
EBPAS-50 total	2184	-0.86	0.37	-2.33	0.02	0.42

	N	*b*	*SE*	*t*	*p*	*OR*
Years of Training	2184	0.06	0.02	2.67	0.01	1.06
Therapist Age	2184	-0.05	0.01	-6.05	0.00	0.95
Therapist months with youth	2184	0.05	0.01	4.75	0.00	1.05
Intercept	2184	0.96	0.88	1.10	0.27	2.62
KEBSQ5H	2184	1.37	0.19	7.37	0.00	3.93
R-EBPPAS total	2184	0.01	0.00	3.58	0.00	1.01
EBPAS-50 total	2184	-1.36	0.39	-3.50	0.00	0.26
Years of Training	2184	0.05	0.02	2.09	0.04	1.05
Therapist Age	2184	-0.05	0.01	-6.44	0.00	0.95
Therapist months with youth	2184	0.05	0.01	4.73	0.00	1.05

Note. Psychoeducation-Parent is a practice derived from the evidence base for Anxiety/Avoidance, Depressed/Withdrawn, Disruptive Behavior, and Attention/Hyperactivity (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 18.

Generalized Mixed Model Results for Activity Selection

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	561	3.99	4.01	1.00	0.33	54.22
KEBSQ 6D (549, 97.9%)	561	1.48	2.20	0.68	0.51	4.41
R-EBPPAS total	561	0.03	0.02	1.67	0.11	1.03
EBPAS-50 total	561	-4.36	2.06	-2.12	0.04	0.01
Model 2: Knowledge, attitude, and demographic variables						
Intercept	502	17.36	2.53	6.88	0.00	3.4*10^7
R-EBPPAS total	502	0.01	0.01	1.52	0.13	1.01
EBPAS-50 total	502	-6.66	1.12	-5.96	0.00	0.00
Years of Training	502	0.39	0.06	6.86	0.00	1.47
Therapist Age	502	-0.17	0.02	-7.26	0.00	0.85
Therapist months with youth	502	-0.04	0.02	-0.17	0.86	1.00

Note. Activity Selection is a practice derived from the evidence base for Depressed/Withdrawn (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50; KEBSQ knowledge score removed from Model 2 due to low variability within predictor variable.

Table 19.

Generalized Mixed Model Results for Maintenance/Relapse Prevention

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	561	-13.63	4.10	-3.32	.00	0.00
KEBSQ 7D (229, 40.8%)	561	-1.34	0.76	-1.76	0.09	0.26
R-EBPPAS total	561	0.02	0.02	1.21	0.24	1.02
EBPAS-50 total	561	3.61	2.25	1.61	0.12	36.92
Model 2: Knowledge, attitude, and demographic variables						
Intercept	502	-8.90	4.41	-2.02	0.05	0.00
KEBSQ 7D	502	-1.67	0.77	-2.17	0.03	0.19
R-EBPPAS total	502	0.01	0.02	0.32	0.75	1.01
EBPAS-50 total	502	3.96	2.25	1.76	0.08	52.17
Years of Training	502	0.14	0.10	1.39	0.17	1.15
Therapist Age	502	-0.10	0.06	-1.73	0.09	0.91
Therapist months with youth	502	-0.03	0.05	-0.60	0.55	0.97

Note. Maintenance/Relapse Prevention is a practice derived from the evidence base for Depressed/Withdrawn (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 20.

Generalized Mixed Model Results for Problem Solving

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	2091	1.44	2.19	0.66	0.52	4.21
KEBSQ 8D (891, 42.6%)	2091	-0.71	0.42	-1.70	0.10	0.49
R-EBPPAS total	2091	0.01	0.01	0.61	0.55	1.01
EBPAS-50 total	2091	-0.84	1.13	-0.74	0.46	0.43
Intercept	2091	2.38	2.18	1.09	0.28	10.75
KEBSQ 8B (1628, 77.9%)	2091	0.27	0.51	0.52	0.61	1.31
R-EBPPAS total	2091	0.00	0.01	0.12	0.91	1.00
EBPAS-50 total	2091	-1.12	1.13	-0.99	0.33	0.33
Intercept	2091	2.31	2.17	1.07	0.29	10.11
KEBSQ 8H (1562, 74.7%)	2091	-0.20	0.46	-0.21	0.84	0.91
R-EBPPAS total	2091	0.00	0.01	0.33	0.75	1.00
EBPAS-50 total	2091	-1.12	1.14	-0.99	0.33	0.33
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1988	4.82	0.71	6.81	0.00	124.43
KEBSQ 8D	1988	-1.11	0.11	-9.74	0.00	0.33
R-EBPPAS total	1988	0.01	0.00	4.20	0.00	1.01
EBPAS-50 total	1988	-1.94	0.29	-6.68	0.00	0.14
Age	1988	0.05	0.01	3.26	0.00	1.05
Years of Training	1988	-0.01	0.02	-0.74	0.46	0.99
Therapist Age	1988	-0.06	0.01	-9.90	0.00	0.94
Therapist months with youth	1988	0.01	0.01	0.74	0.46	1.01
Intercept	1988	5.09	0.71	7.18	0.00	161.91
KEBSQ 8B	1988	0.45	0.13	3.51	0.00	1.57
R-EBPPAS total	1988	0.00	0.00	0.19	0.85	1.00
EBPAS-50 total	1988	-1.88	0.28	-6.61	0.00	0.15
Age	1988	0.04	0.01	3.13	0.00	1.04
Years of Training	1988	0.01	0.02	0.52	0.60	1.01
Therapist Age	1988	-0.05	0.01	-8.02	0.00	0.96
Therapist months with youth	1988	0.02	0.01	1.84	0.07	1.02
Intercept	1988	4.80	0.71	6.79	0.00	121.21
KEBSQ 8H	1988	-0.06	0.12	-0.53	0.60	0.94
R-EBPPAS total	1988	0.00	0.00	1.61	0.11	1.00
EBPAS-50 total	1988	-1.90	0.29	-6.66	0.00	0.15
Age	1988	0.05	0.01	3.37	0.00	1.05
Years of Training	1988	0.01	0.02	0.53	0.60	1.01
Therapist Age	1988	-0.04	0.00	-7.76	0.00	0.96

	N	*b*	*SE*	*t*	*p*	*OR*
Therapist months with youth	1988	0.01	0.01	1.76	0.08	1.01

Note. Problem Solving is a practice derived from the evidence base for Depressed/Withdrawn, Disruptive Behavior, and Attention/Hyperactivity (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 21.

Generalized Mixed Model Results for Praise

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1848	-1.53	2.41	-0.64	0.53	0.22
KEBSQ 9B (1781, 96.4%)	1848	0.21	1.27	0.17	0.87	1.23
R-EBPPAS total	1848	0.01	0.01	0.41	0.69	1.01
EBPAS-50 total	1848	-0.34	1.26	-0.27	0.79	0.71
Intercept	1848	-1.96	2.44	-0.80	0.43	0.14
KEBSQ 9H (1208, 65.4%)	1848	-0.38	0.52	-0.73	0.47	0.69
R-EBPPAS total	1848	0.00	0.01	0.23	0.81	1.00
EBPAS-50 total	1848	0.20	1.38	0.14	0.89	1.22
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1788	1.36	0.95	1.42	0.16	3.88
KEBSQ 9B	1788	-0.63	0.39	-1.60	0.11	0.53
R-EBPPAS total	1788	0.01	0.00	2.13	0.03	1.01
EBPAS-50 total	1788	-0.66	0.36	-1.83	0.07	0.52
Age	1788	-0.03	0.02	-1.70	0.09	0.97
Years of Training	1788	-0.17	0.03	-6.14	0.00	0.85
Therapist Age	1788	-0.02	0.01	-2.84	0.01	0.98
Therapist months with youth	1788	0.03	0.01	2.75	0.01	1.03
Intercept	1788	0.12	0.99	0.12	0.91	1.13
KEBSQ 9H	1788	-0.40	0.15	-2.72	0.01	0.67
R-EBPPAS total	1788	0.01	0.00	1.79	0.07	1.01
EBPAS-50 total	1788	-0.29	0.40	-0.71	0.48	0.75
Age	1788	-0.03	0.02	-1.49	0.14	0.97
Years of Training	1788	-0.17	0.03	-6.08	0.00	0.84
Therapist Age	1788	-0.02	0.01	-2.07	0.04	0.98
Therapist months with youth	1788	0.02	0.01	2.40	0.02	1.02

Note. Praise is a practice derived from the evidence base for Disruptive Behavior and Attention/Hyperactivity (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 22.

Generalized Mixed Model Results for Tangible Rewards

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1848	-3.99	2.29	-1.71	0.09	0.02
KEBSQ 10B (1722, 93.2%)	1848	0.80	0.99	0.81	0.42	2.22
R-EBPPAS total	1848	0.02	0.01	1.69	0.10	1.02
EBPAS-50 total	1848	-0.76	1.14	-0.67	0.51	0.47
Intercept	1848	-4.42	2.43	-1.82	0.08	0.01
KEBSQ 10H (1201, 65%)	1848	-0.64	0.48	-1.35	0.18	0.53
R-EBPPAS total	1848	0.02	0.01	1.39	0.17	1.02
EBPAS-50 total	1848	0.15	1.31	0.11	0.91	1.16
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1788	-1.43	1.40	-1.02	0.31	0.24
KEBSQ 10B	1788	0.40	0.44	0.92	0.36	1.49
R-EBPPAS total	1788	0.02	0.01	4.23	0.00	1.02
EBPAS-50 total	1788	-1.17	0.48	-2.46	0.01	0.31
Years of Training	1788	-0.09	0.03	-2.56	0.01	0.92
Therapist Age	1788	-0.03	0.01	-2.07	0.04	0.98
Therapist months with youth	1788	-0.01	0.01	-0.45	0.65	0.99
Intercept	1788	-2.21	1.40	-1.58	0.12	0.11
KEBSQ 10H	1788	-0.55	0.21	-2.60	0.01	0.58
R-EBPPAS total	1788	0.02	0.01	3.44	0.00	1.02
EBPAS-50 total	1788	-0.36	0.58	-0.61	0.54	0.70
Years of Training	1788	-0.09	0.03	-2.51	0.01	0.92
Therapist Age	1788	-0.02	0.01	-1.70	0.09	0.98
Therapist months with youth	1788	-0.01	0.02	-0.75	0.45	0.99

Note. Tangible Rewards is a practice derived from the evidence base for Disruptive Behavior and Attention/Hyperactivity (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 23.

Generalized Mixed Model Results for Time Out

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1729	-1.95	3.67	-0.53	0.60	0.14
KEBSQ 11B (1311, 75.8%)	1729	-1.49	0.61	-2.43	0.02	0.23
R-EBPPAS total	1729	-0.00	0.02	-0.20	0.84	1.00
EBPAS-50 total	1729	0.35	1.71	0.20	0.84	1.41
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1681	6.20	1.83	3.38	0.00	492.88
KEBSQ 11B	1681	-2.24	0.28	-7.95	0.00	0.11
R-EBPPAS total	1681	-0.01	0.01	-2.00	0.05	0.99
EBPAS-50 total	1681	-0.50	0.68	-0.73	0.47	0.61
Age	1681	-0.32	0.03	-9.37	0.00	0.73
Years of Training	1681	0.15	0.04	4.12	0.00	1.16
Therapist Age	1681	-0.01	0.01	-0.84	0.40	0.99
Therapist months with youth	1681	-0.10	0.02	-3.96	0.00	0.91

Note. Time Out is a practice derived from the evidence base for Disruptive Behavior (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 24.

Generalized Mixed Model Results for Commands

	N	*b*	*SE*	*t*	*p*	*OR*
Model 1: Knowledge and attitude variables						
Intercept	1848	-1.95	3.91	-0.50	0.62	0.14
KEBSQ 12B (1700, 92%)	1848	-0.83	1.08	-0.77	0.45	0.44
R-EBPPAS total	1848	0.01	0.02	0.33	0.74	1.01
EBPAS-50 total	1848	-0.19	2.00	-0.10	0.93	0.83
Intercept	1848	-4.55	5.10	-0.89	0.38	0.01
KEBSQ 12H (1530, 82.8%)	1848	3.34	3.38	0.99	0.33	28.23
R-EBPPAS total	1848	0.01	0.02	0.39	0.70	1.01
EBPAS-50 total	1848	-0.82	2.05	-0.40	0.69	0.44
Model 2: Knowledge, attitude, and demographic variables						
Intercept	1788	-0.80	3.93	-0.20	0.84	0.45
KEBSQ 12B	1788	2.64	2.46	1.08	0.28	14.03
R-EBPPAS total	1788	0.01	0.01	1.10	0.27	1.01
EBPAS-50 total	1788	-1.21	1.17	-1.04	0.30	0.30
Age	1788	-0.05	0.06	-0.89	0.38	0.95
Years of Training	1788	-0.29	0.12	-2.32	0.02	0.75
Therapist Age	1788	-0.06	0.03	-1.89	0.06	0.95
Therapist months with youth	1788	0.08	l.03	2.77	0.01	1.08
Intercept	1788	-1.92	10.29	-0.19	0.85	0.15
KEBSQ 12H	1788	3.89	4.94	0.79	0.43	49.01
R-EBPPAS total	1788	0.02	0.03	0.52	0.61	1.02
EBPAS-50 total	1788	-1.34	3.61	-0.37	0.71	0.26
Age	1788	-0.04	0.18	-0.23	0.83	0.96
Years of Training	1788	-0.37	0.39	-0.96	0.34	0.69
Therapist Age	1788	-0.07	0.09	-0.74	0.46	0.94
Therapist months with youth	1788	0.09	0.09	1.04	0.30	1.09

Note. Commands is a practice derived from the evidence base for Disruptive Behavior and Attention/Hyperactivity (PracticeWise, 2015); KEBSQ = Knowledge of Evidence-Based Services Questionnaire (parenthetical values indicate correct responses and percentage of total MTPS reports); R-EBPPAS = Revised Evidence-Based Practice Attitudes Scale, EBPAS-50 = Evidence-Based Practice Attitudes Scale-50.

Table 25.

Minimum, Maximum, and Average (SD) Odds Ratios and Beta Coefficients across Predictors

	Odds Ratios							Beta Coefficients					
	N	Min	Max	*M*	*SD*	*N* > 1	*N* < 1	Min	Max	*M*	*SD*	*N* > 0	*N* < 0
Model 1													
PDE specific awareness knowledge	19	.23	5.5	2.08	1.50	13	6	-1.49	1.70	.39	.93	13	6
Process awareness knowledge	19	.99	1.02	1.01	.01	17	2	-.01	.02	.01	.01	17	2
Attitudes	19	.12	6.36	.88	1.38	5	14	-2.11	1.85	-.63	.90	5	14
Model 2													
PDE specific awareness knowledge	19	.11	4.32	1.71	1.24	11	8	-2.24	1.46	.17	1.01	11	8
Process awareness knowledge	19	.99	1.02	1.01	.01	17	2	-.01	.02	.01	.01	17	2
Attitudes	19	0	1.90	.42	.43	1	18	-3.49	.64	-1.27	1.09	1	18
Therapist Age	19	.93	.99	.96	.02	0	19	-.08	-.01	-.04	.02	0	19
Years of Clinical Training	19	.75	1.16	.97	.12	9	10	-.29	.15	-.03	.12	9	10
Months with Youth	19	.91	1.05	1.02	.03	16	3	-.10	.05	.02	.04	16	3
Youth Age	6	.73	1.05	.97	.12	3	3	-.32	.05	-.04	.14	3	3

Note. PDE = Practice derived from the evidence-base; Based on the 19 models for PDE variables of Cognitive, Psychoeducation-Child, Relaxation, Psychoeducation-Parent, Problem Solving, Praise, Tangible Rewards, and Time Out.

Table 26.

Overall Findings of Therapist Knowledge, Attitudes, and Demographic Variables on PDE hit Variables

	Exposure	Cognitive			Psychoeducation-Child		Relaxation		Psychoeducation-Parent				Activity Scheduling	Maintenance	Problem Solving			Praise		Tangible Rewards		Time Out	Commands	
	A	A	D	B	A	D	A	D	A	D	B	H	D	D	D	B	H	B	H	B	H	B	B	H
Knowledge																								
KEBSQ			-	+	+	+	+	+	+	+	+	+		-	-	+			-		-	-		
R-EBPPAS	-			+	+	+	+	+	+	+	+	+			+			+		+	+	-		
Attitudes																								
EBPAS-50	+	-	-	-					-	-	-	-	-		-	-	-			-				
Therapist Demo																								
Age	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-				
Years of Clinical Training			-	-	+	+	-	-	+	+	+	+	+					-	-	-	-	+	-	
Months with Youth	+	+	+	+	+	+			+	+	+	+						+	+			-	+	
Youth Demo																								
Age															+	+	+					-		

Note. A = Anxiety/Avoidance, D = Depressed/Withdrawn, B = Disruptive Behavior, H = Attention/Hyperactivity; KEBSQ = Knowledge of Evidence-Based Services Questionnaire; R-EBPPAS = Revised Evidence-Based Practice Process Scale; EBPAS-50 = Evidence-based Practice Attitudes Scale-50 item; KEBSQ problem area knowledge scores were omitted from Exposure and Activity Scheduling models due to low variability; youth age only included in Problem Solving, Praise, Time Out, and Commands models (PracticeWise, 2015).

Figure 1. Treatment Targets to PDE across four major problem areas

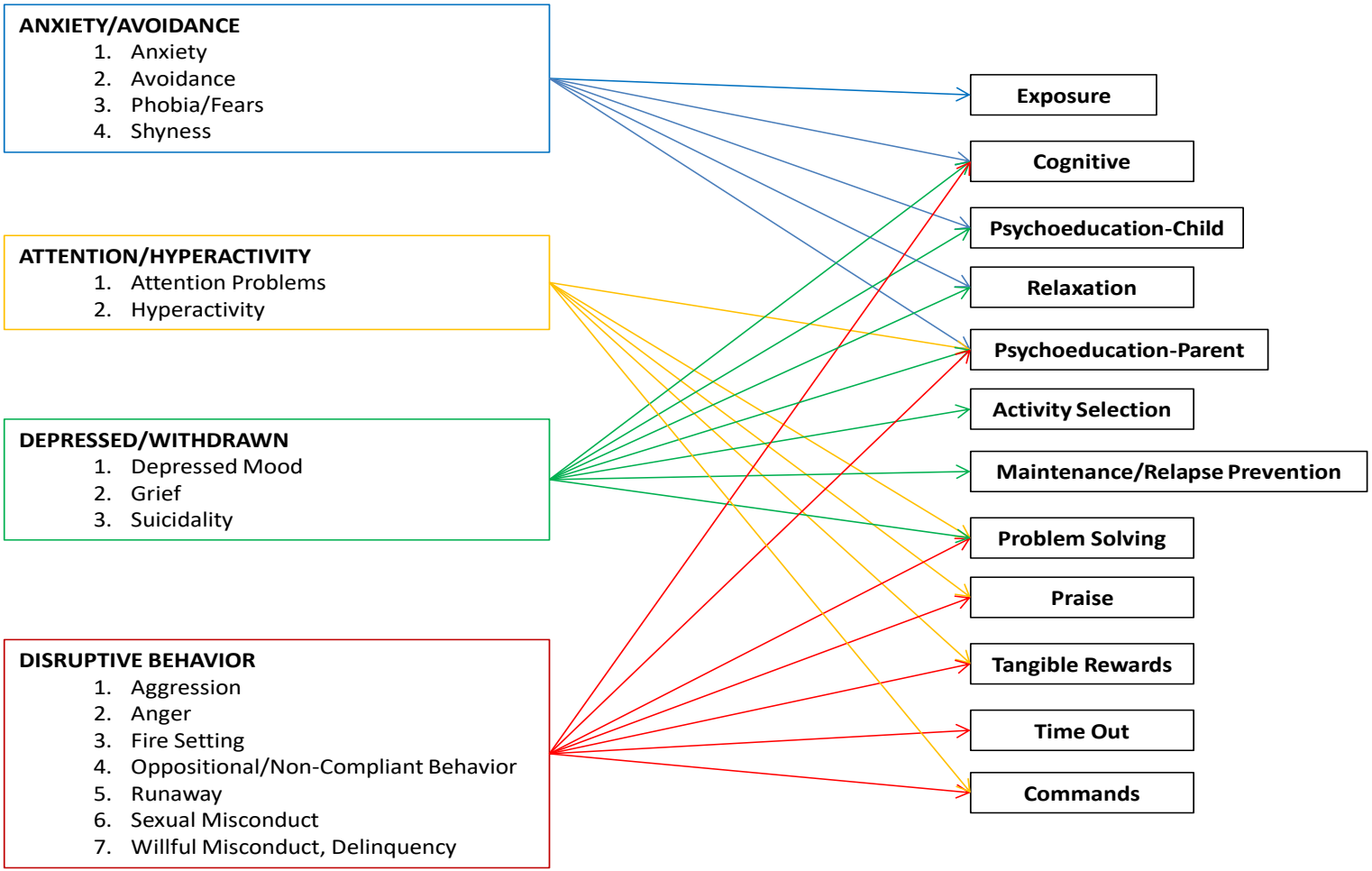


Figure 2.

Graphical Display of Odds Ratio Averages for Model 1

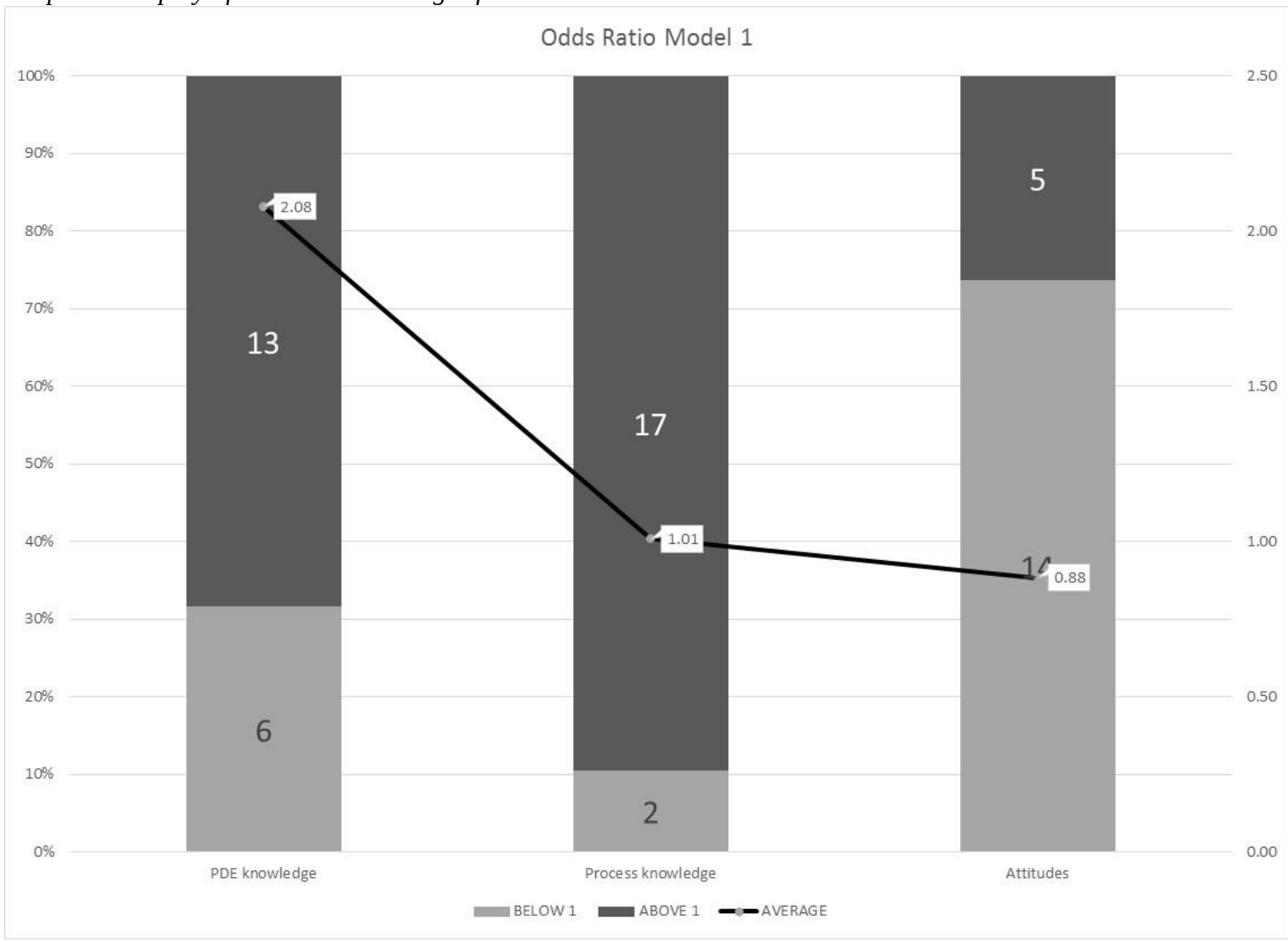


Figure 3.

Graphical Display of Odds Ratio Averages for Model 2

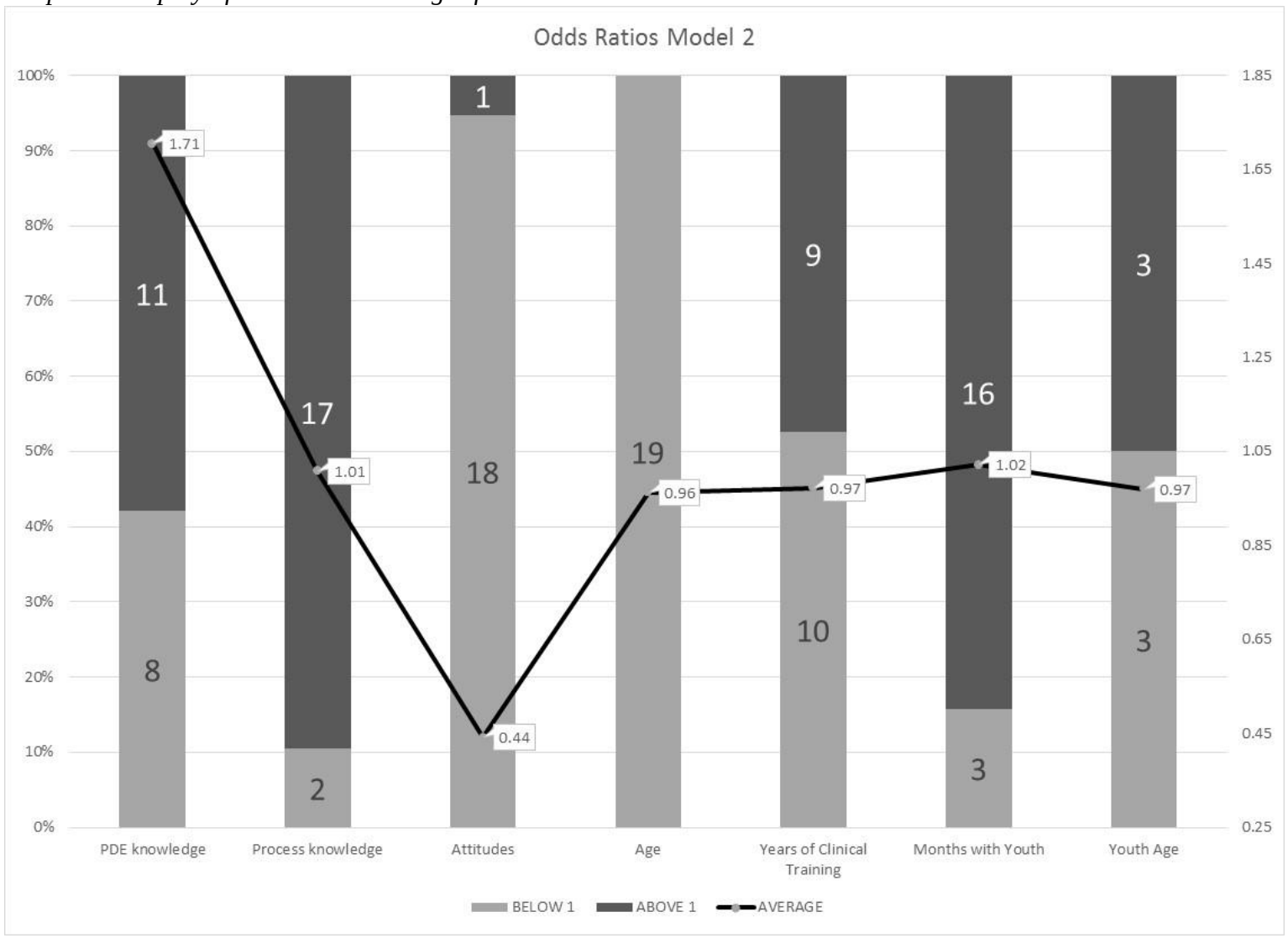


Figure 4.

Graphical Display of Beta Coefficient Averages for Model 1

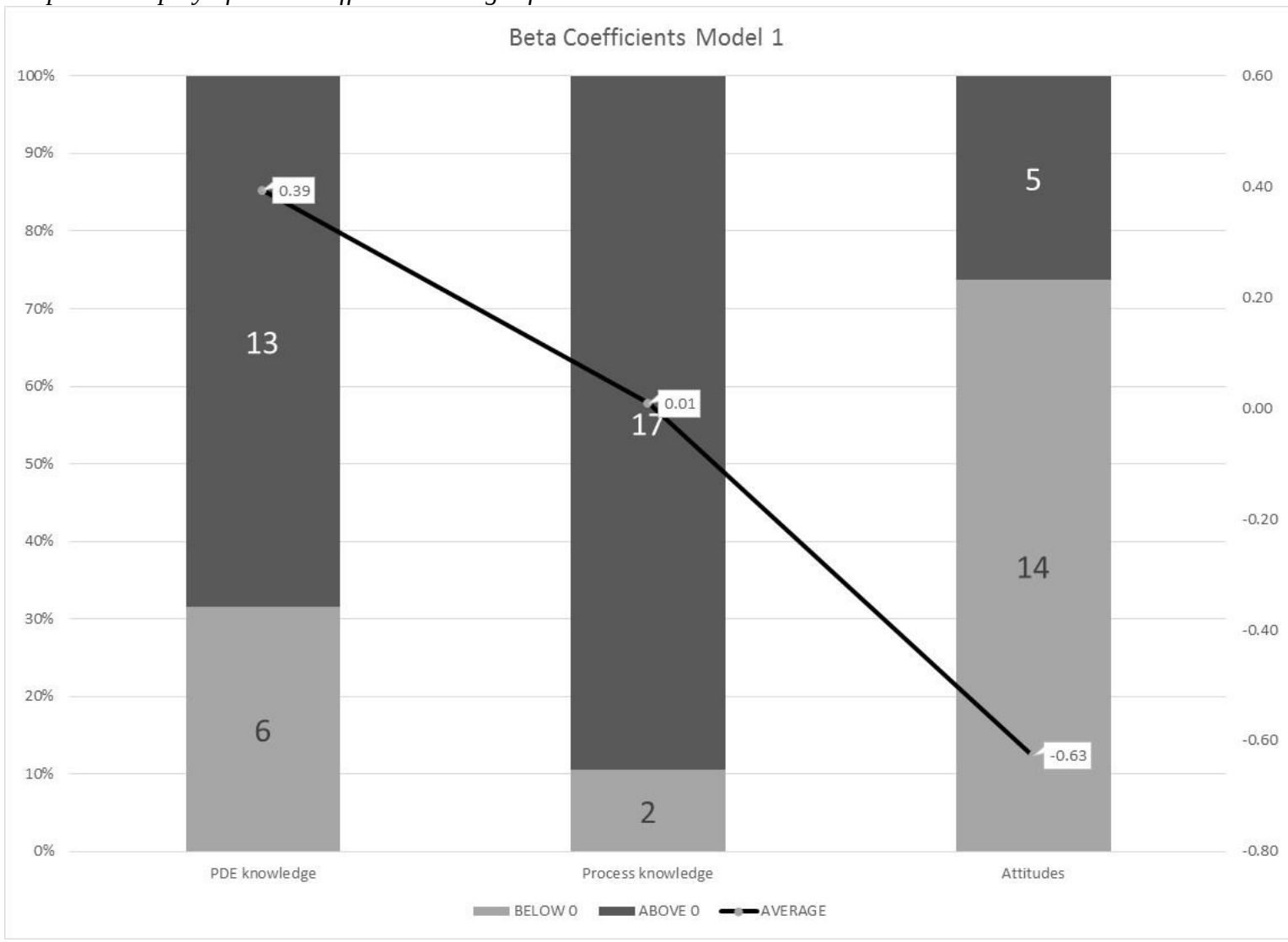
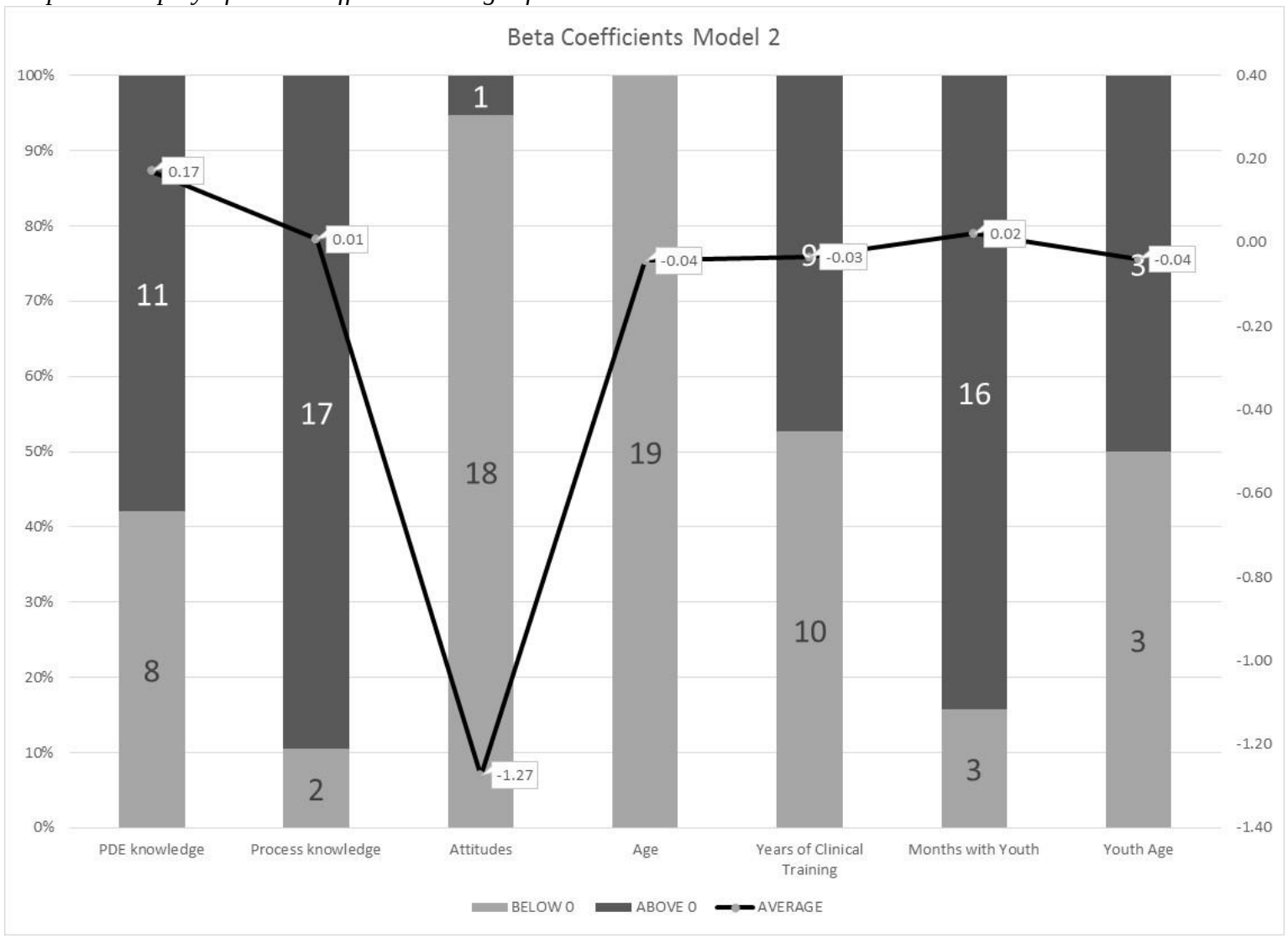


Figure 5.

Graphical Display of Beta Coefficient Averages for Model 2



Appendix A: CAMHD Notice of Privacy Practices

CAMHD Notice of Privacy Practices

Child and Adolescent Mental Health Division

Notice of Privacy Practices

Effective April 14, 2003

Child and Adolescent Mental Health Division
("CAMHD")

THIS NOTICE EXPLAINS HOW MEDICAL INFORMATION ABOUT YOUR CHILD MAY BE USED AND DISCLOSED. IT ALSO EXPLAINS HOW YOU CAN ACCESS THIS INFORMATION. PLEASE READ IT CAREFULLY.

Understanding Your Child's Protected Health Information:

CAMHD staff and doctors take notes each time your child visits them. They write down what they think is your child's condition and how they plan to care for them. Your child's health record has information that can identify him or her. This kind of information is known as "Protected Health Information." Your child's name and Social Security number are types of PHI.

If you know what is in the health record you can better protect your child's Protected Health Information ("PHI"). You can also ask how PHI will be used. You can decide if PHI should be disclosed. You can make sure that the health record is accurate.

Our Duties:

CAMHD must:

- Protect the privacy of PHI.
- Tell you about our legal duties.
- Tell you about our privacy practices. You have the right to know how CAMHD uses PHI.
- Abide by this notice.

CAMHD can change its practices at any time. We will mail you a copy of any new notice within 60 days.

CAMHD will ask for your consent before disclosing PHI. CAMHD can disclose PHI without your permission. But any release of PHI will follow the law, as explained in this notice.

Your Child's Health Information Rights:

CAMHD owns your child's health record. However, the information in the record belongs to your child. On behalf of your child you have the right to:

- View or get paper copies of PHI.
- Decide how we send PHI to you. For example, CAMHD usually sends information by mail. You may ask to get PHI by other means, such as fax. You may also ask us to send PHI to another address.
- Ask to limit the use and disclosure of PHI. CAMHD is not required by law to agree to every request.
- Ask for corrections to your child's health record.
- Get an accounting of PHI disclosures.
- Change your mind about allowing use or disclosures of PHI. This does not apply to disclosures that have already happened.

Information that does not identify your child is used for:

- Medical and mental health research.
- Planning and improving services.
- Improving health care.

Examples of Disclosures for Treatment, Payment, and Health Operations:

CAMHD sometimes has to share PHI with other agencies to provide services. CAMHD will only share the minimum necessary PHI with them. We will also require them to protect the PHI they receive.

CAMHD will use and share PHI for the following purposes:

Treatment. For example: A CAMHD professional notes your child's and the treatment team's expectations in the health record. A doctor logs the actions taken and his or her observations. The care coordinator can review your child's record later to see if those goals were met.

Payment. For example: A provider sends a bill to CAMHD. The bill or accompanying materials may contain PHI.

Regular Health Operations. For example: CAMHD staff uses PHI to evaluate treatment outcomes. This helps CAMHD to improve our services.

Other Uses or Disclosures (Permission not Needed):

Business Associates. For example: CAMHD provides some of its services by contract. We may hire an auditor to review financial records. Those records may contain PHI about your child.

Health Oversight. CAMHD may share PHI with certain government oversight agencies. The U.S. Department of Health and Human Services is an example of such an agency.

Law Enforcement. CAMHD may share PHI for law enforcement purposes.

Coroners, Medical Examiners and Funeral Directors. CAMHD may share PHI with people who need it to do this type of work.

Organ Donation and Disease Registers. CAMHD may share PHI with authorized organ donation and transplantation organizations.

Research. CAMHD may share information with researchers under certain conditions. An Institutional Review Board (IRB) must approve the research project. The IRB will also enforce rules that require researchers to keep PHI private.

Public Health. CAMHD may have to disclose PHI to prevent or control disease, injury, or disability. CAMHD may share PHI with public health authorities for those reasons.

Correctional institution. If your child is at a correctional facility, CAMHD can provide PHI to the facility. We will share PHI with the facility when needed to protect the health and safety of your child and others.

Victims of Abuse (including Child Abuse), Neglect or Domestic Violence. CAMHD is required to report all suspected cases of abuse or neglect. CAMHD must contact the Police or Child Protective Services to make a report. These reports may contain PHI.

Specialized Government Functions. CAMHD may disclose PHI for national security or intelligence purposes. We may disclose PHI to protective services for the President. It may disclose PHI to others as required by law.

Judicial and Administrative Hearings. CAMHD may share PHI in judicial or administrative hearings. CAMHD will only share PHI after being served with an order of a court or administrative tribunal. CAMHD may also share PHI to respond to lawful processes. Subpoenas are a common type of lawful process.

Other Government Agencies. CAMHD may share PHI with other government agencies if necessary to verify that your child is entitled to other benefits or services.

Family Educational Rights and Privacy Act (FERPA)

Your child's records may also be considered "education records." CAMHD will only disclose information in your child's education records as allowed by FERPA regulations. The Department of Education provides you with your child's FERPA notice.

For More Information or to Report a Problem:

You may contact us if you have other questions or want more information. Please call the CAMHD Privacy Coordinator at (808) 733-8370. You may also write to:

CAMHD Privacy Coordinator
3627 Kilauea Avenue, Suite 101
Honolulu, HI 96816

You can also file a complaint with the U.S. Department of Health and Human Services. You may contact them at:

Office of Civil Rights
Medical Privacy, Complaint Division
U.S. Department of Health and Human Services
200 Independence Avenue, S.W., HHH Bldg., Room 509H
Washington, DC 20201
Phone: (866) 627-7748
TTY: (886) 788-4989
E-mail: www.hhs.gov/ocr

No one will face retaliation for filing a complaint.

My signature below indicates that I have been provided with a copy of the notice of privacy practices.

Name: _____ Child's Name: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Relationship to child:_____

Effective Date: April 14, 2003.
Distribution: Original to CAMHD.
Copy to Parent/Guardian.
6/03

Appendix B: Evidence-Based Practice Attitudes Scale-50

EBPAS-50 (©Gregory A. Aarons, Ph.D.)
Evidence-Based Practice Attitude Scale-50 Item Version

Reference:

Aarons, G. A., Cafri, G., Lugo, L., Sawitzky, A. (2012). Expanding the domains of attitudes towards evidence-based practice. The Evidence Based Practice Attitude Scale - 50. *Administration and Policy in Mental Health, 39*, 331-340.

Contact: gaarons@ucsd.edu

The following questions ask about your feelings about using new types of therapy, interventions, or treatments. Manualized therapy refers to any intervention that has specific guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way. Evidence-based practice refers to any intervention that is supported by empirical research.

For questions 1-8: Circle the number indicating the extent to which you agree with each item using the following scale:

0	1	2	3	4
Not at all	**Slight extent**	**Moderate extent**	**Great extent**	**Very great extent**

1. I like to use new types of therapy/interventions to help my clients 0 1 2 3 4
2. I am willing to try new types of therapy/interventions even if I have to follow a treatment manual 0 1 2 3 4
3. I know better than academic researchers how to care for my clients 0 1 2 3 4
4. I am willing to use new and different types of therapy/interventions developed by researchers 0 1 2 3 4
5. Research based treatments/interventions are not clinically useful 0 1 2 3 4
6. Clinical experience is more important than using manualized therapy/treatment 0 1 2 3 4
7. I would not use manualized therapy/interventions 0 1 2 3 4
8. I would try a new therapy/intervention even if it were very different from what I am used to doing 0 1 2 3 4

For questions 9-15: If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:

9. it was intuitively appealing? 0 1 2 3 4
10. it "made sense" to you? 0 1 2 3 4

11. it was required by your supervisor? 0 1 2 3 4

12. it was required by your agency? 0 1 2 3 4

13. it was required by your state? 0 1 2 3 4

14. it was being used by colleagues who were happy with it? 0 1 2 3 4

15. you felt you had enough training to use it correctly? 0 1 2 3 4

If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:

16. your clients wanted it 0 1 2 3 4

17. you knew more about how your clients liked it 0 1 2 3 4

18. you knew it was right for your clients 0 1 2 3 4

19. you had a say in which evidence-based practice was used 0 1 2 3 4

20. you had a say in how you would use the evidence-based practice 0 1 2 3 4

21. it fit with your clinical approach 0 1 2 3 4

22. it fit with your treatment philosophy 0 1 2 3 4

For questions 23-50: Circle the number indicating the extent to which you agree with each item using the following scale:

0	1	2	3	4
Not at all	**Slight extent**	**Moderate extent**	**Great extent**	**Very great extent**

23. Evidence-based practice detracts from truly connecting with your clients 0 1 2 3 4

24. Evidence-based practice makes it harder to develop a strong working alliance 0 1 2 3 4

25. Evidence-based practice is too simplistic 0 1 2 3 4

26. Evidence-based practice is not useful for clients with multiple problems 0 1 2 3 4

27. Evidence-based practice is not useful for families with multiple problems. 0 1 2 3 4

28. Evidence-based practice is not individualized treatment 0 1 2 3 4

29. Evidence-based practice is too narrowly focused 0 1 2 3 4

30. I prefer to work on my own without oversight... ..... 0 1 2 3 4

31. I do not want anyone looking over my shoulder while I provide services 0 1 2 3 4

32. My work does not need to be monitored. 0 1 2 3 4

33. I do not need to be monitored 0 1 2 3 4

34. I am satisfied with my skills as a therapist/case manager 0 1 2 3 4

35. A positive outcome in therapy is an art more than a science 0 1 2 3 4

Circle the number indicating the extent to which you agree with each item using the following scale:

0	1	2	3	4
Not at all	**Slight extent**	**Moderate extent**	**Great extent**	**Very great extent**

36. Therapy is both an art and a science 0 1 2 3 4

37. My overall competence as a therapist is more important than a particular approach 0 1 2 3 4

38. I don't have time to learn anything new 0 1 2 3 4

39. I can't meet my other obligations 0 1 2 3 4

40. I don't know how to fit evidence-based practice into my administrative work 0 1 2 3 4

41. Evidence-based practice will cause too much paperwork 0 1 2 3 4

42. Learning an evidence-based practice will help me keep my job 0 1 2 3 4

43. Learning an evidence-based practice will help me get a new job 0 1 2 3 4

44. Learning an evidence-based practice will make it easier to find work 0 1 2 3 4

45. I would learn an evidence-based practice if continuing education credits were provided 0 1 2 3 4

46. I would learn an evidence-based practice if training were provided 0 1 2 3 4

47. I would learn an evidence-based practice if ongoing support was provided 0 1 2 3 4

48. I enjoy getting feedback on my job performance 0 1 2 3 4

49. Getting feedback helps me to be a better therapist/case manager 0 1 2 3 4

50. Getting supervision helps me to be a better therapist/case manager 0 1 2 3 4

Appendix C: Knowledge of Evidence-Based Services Questionnaire-Revised

KEBSQ-R

The items below describe a variety of techniques used in child and adolescent therapy. We are interested in therapists' knowledge of evidence based practices in the treatment of youth psychopathology. Please indicate whether the following strategies are included in treatment protocols that have been empirically supported for anxious/avoidant, depressed/withdrawn, disruptive behavior, and hyperactivity/inattention problems. **Please note that your responses should not reflect what you believe to be basic good practice or generally helpful, but rather what has specifically been demonstrated in the research literature.**

Please identify evidence based techniques by circling the appropriate letter: **A** for ***Anxious/Avoidant***, **D** for ***Depressed/Withdrawn***, **B** for ***Disruptive Behavior,*** and **H** for ***Hyperactivity/Inattention***. Please circle as many as you feel are appropriate. If you believe that the technique is not used in evidence based treatment for any of the problem areas, circle **N** for ***None***.

A	**D**	**B**	**H**	**N**
Anxious/ Avoidant	***Depressed/ Withdrawn***	***Disruptive Behavior***	***Attention/ Hyperactivity***	***None***

Example: Inducing a trance-like state through the power of suggestion.	**A**	**D**	**B**	**H**	**N**
1. Introducing the child to a stimulus, either directly or through imagined experience, with the aim of decreasing the child's fear of the object or situation.	**A**	**D**	**B**	**H**	**N**
2. Using strategies designed to evaluate the accuracy and/or alter the interpretations of the child's thoughts.	**A**	**D**	**B**	**H**	**N**
3. Teaching the child about how problems develop and the rationale for treatment.	**A**	**D**	**B**	**H**	**N**
4. Teaching the child calming techniques, such as muscle relaxation, breathing exercises, meditation, and similar activities, with the goal of reducing physiological arousal.	**A**	**D**	**B**	**H**	**N**
5. Teaching the parent(s) about how problems develop and the rationale for treatment.	**A**	**D**	**B**	**H**	**N**
6. Encouraging the child to participate in pleasurable activities on a regular basis.	**A**	**D**	**B**	**H**	**N**
7. Strengthening skills already developed and anticipating future challenges to minimize the chance that therapeutic gains will be lost.	**A**	**D**	**B**	**H**	**N**
8. Teaching the child to solve problems by outlining steps, such as identifying the problem, generating multiple solutions, and selecting the best alternative.	**A**	**D**	**B**	**H**	**N**
9. Training the parent(s) to provide social rewards, such as praise, encouragement, and affection, to promote desired behaviors.	**A**	**D**	**B**	**H**	**N**
10. Teaching the parent(s) to provide tangible rewards as reinforcement for desired behaviors.	**A**	**D**	**B**	**H**	**N**

11. Using time out as a consequence for engaging in an undesirable behavior.	**A**	**D**	**B**	**H**	**N**
12. Training the parent(s) to give directions and commands effectively.	**A**	**D**	**B**	**H**	**N**

Appendix D: Monthly Treatment Progress Summary

SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY
Child and Adolescent Mental Health Division (CAMHD)

Instructions: Please complete and electronically submit this form to CAMHD by the 5th working day of each month (summarizing the time period of 1st to the last day of the previous month). The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

Client Name:	CR #:	DOB:
Month/Year of Services:	Primary Diagnosis:	Eligibility Status:
Level of Care (one per form):		

Service Format (circle all that apply):
Individual Group Parent Family Teacher Other:

Service Setting (circle all that apply):
Home School Community Out of Home Clinic/Office Other:

Service Dates:																

Targets Addressed This Month (*number* up to 10):

	Activity Involvement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Academic Achievement		Depressed Mood		Low Self-Esteem		Positive Thinking/ Attitude		Social Skills
	Aggression		Eating, Feeding Problems		Mania		Psychosis		Speech and Language Problems
	Anger		Empathy		Medical Regimen Adherence		Runaway		Substance Use
	Anxiety		Enuresis, Encopresis		Oppositional/ Non-Compliant Behavior		School Involvement		Suicidality
	Assertiveness		Fire Setting		Peer Involvement		School Refusal/Truancy		Traumatic Stress
	Attention Problems		Gender Identity Problems		Peer/Sibling Conflict		Self-Control		Treatment Engagement
	Avoidance		Grief		Personal Hygiene		Self-Injurious Behavior		Willful Misconduct, Delinquency
	Cognitive-Intellectual Functioning		Health Management		Positive Family Functioning		Sexual Misconduct		Other:
	Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness		Other:

Progress Ratings This Month (check appropriate rating for any target numbers endorsed above):

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

CR # _____ (please repeat the number here)

Intervention Strategies Used This Month (check all that apply):

☐	Activity Scheduling	☐	Eye Movement, Tapping	☐	Marital Therapy	☐	Play Therapy	☐	Stimulus or Antecedent Control
☐	Assertiveness Training	☐	Family Engagement	☐	Medication/Pharm-acotherapy	☐	Problem Solving	☐	Supportive Listening
☐	Biofeedback, Neurofeedback	☐	Family Therapy	☐	Mentoring	☐	Psychoeducation, Child	☐	Tangible Rewards
☐	Catharsis	☐	Free Association	☐	Milieu Therapy	☐	Psychoeducation, Parent	☐	Therapist Praise/Rewards
☐	Cognitive/Coping	☐	Functional Analysis	☐	Mindfulness	☐	Relationship or Rapport Building	☐	Thought Field Therapy
☐	Commands/ Limit Setting	☐	Guided Imagery	☐	Modeling	☐	Relaxation	☐	Time Out
☐	Communication Skills	☐	Hypnosis	☐	Motivational Interviewing	☐	Response Cost	☐	Twelve-step Programming
☐	Crisis Management	☐	Ignoring or DRO	☐	Natural and Logical Consequences	☐	Response Prevention	☐	Other:
☐	Directed Play	☐	Insight Building	☐	Parent Coping	☐	Self-Monitoring	☐	Other:
☐	Educational Support	☐	Interpretation	☐	Parent-Monitoring	☐	Self-Reward/ Self-Praise	☐	Other:
☐	Emotional Processing	☐	Line of Sight Supervision	☐	Parent Praise	☐	Skill Building		
☐	Exposure	☐	Maintenance or Relapse Prevention	☐	Peer Modeling or Pairing	☐	Social Skills Training		

Psychiatric Medications (List All)	Total Daily Dose	Dose Schedule	Check if Change	Description of Change
_____	_____	_____	☐	_____
_____	_____	_____	☐	_____
_____	_____	_____	☐	_____
_____	_____	_____	☐	_____
_____	_____	_____	☐	_____

Projected Discharge Date: _____ ☐ Check if Discharged During Current Month

IF YOUTH WAS DISCHARGED THIS MONTH, PLEASE COMPLETE ITEMS A & B:

A. Discharge Living Situation (check one):

☐ Home ☐ Foster Home ☐ Group Care ☐ Residential Treatment
☐ Institution/Hospital ☐ Jail/Correctional Facility ☐ Homeless/Shelter ☐ Other:_____

B. Reason(s) for Discharge (check all that apply):

☐ Success/Goals Met ☐ Insufficient Progress ☐ Family Relocation
☐ Runaway/Elopement ☐ Refuse/Withdraw ☐ Eligibility Change ☐ Other:_____

CR # _____ (please repeat the number here)

Outcome Measures: Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1-School:) (2-Home:) (3-Community:) (4-Behavior Toward Others:) (5-Moods/Emotions:) (6-Self-Harm:) (7-Substance:) (8-Thinking:) (Total:)			Date:
CASII/CALOCUS (Total):	CASII/CALOCUS (Level of Care):		Date:
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested During Month? (Y/N):	School attendance (% of days):		

Comments/Suggestions ***(attach additional sheets if necessary)***:

Provider Agency & Island: _____	Clinician Name and ID#: _____
Provider Supervisor Signature: _____	Clinician Signature: _____
Submitted to CAMHD (date): _____	Care Coordinator: _____

Appendix E: Monthly Treatment Progress Summary Codebook

DOH Child and Adolescent Mental Health Division
Instructions and Codebook for Provider Monthly Treatment and Progress Summary
Effective July 1, 2008

The instructions and codebook are to be used in conjunction with the CAMHD Service Provider Monthly Treatment and Progress Summary form. This codebook defines the numerous terms and possible responses necessary to accurately complete the form. For questions regarding these definitions or the use of the Monthly Treatment and Progress Summary, please contact the Clinical Services Office at 733-9349.

Instructions

Please complete and electronically submit to CAMHD the Monthly Treatment and Progress Summary by the 5th working day of the month. The summary should pertain to the previous month's services. This form should be completed by the clinician who is most familiar with the current status of the youth and family and with the services provided during the month. When necessary, the responding clinician should gather information from other provider team members to assure the most accurate description possible. Once completed by the clinician, the form should be reviewed and signed by a qualified supervisor.

At the top section, please write the Client Name, CR Number, Date of Birth (DOB), Home School, School Complex, Eligibility Status [i.e., Educationally Supportive (IDEA), Support for Emotional and Behavioral Development (SEBD), Mental Health Only], Axis I Primary Diagnosis, Axis I Secondary Diagnosis, Axis I Tertiary Diagnosis, Axis II Primary Diagnosis, Axis II Secondary Diagnosis, Level of Care, and Month/Year of Services. If some Diagnosis fields do not apply to the youth, please leave those fields blank. The Month/Year of Services refers to the month in which the service was provided, not the date the Monthly Provider Summary was completed. For example, if the report is submitted in the first week of June, the Month/Year of Services would read "May," because the services were delivered in May. For youth receiving more than one level of care during the month, please complete a separate form for each.

Under Service Format, please indicate whether services were delivered in the following manner (more than one format can be selected):

Individual –Working with youth directly
Group –Working with youth along with other youths receiving services
Parent –Working directly with parents or caregivers, with youth not present
Family – Working with parents or caregivers and youth together. Can include other family members
Teacher – Working with a teacher directly
Other – Another format not specified above; please write description

Under Service Setting, please note whether services were delivered in the following locations (more than one setting can be selected):

Home –Working with youth or family members in the youth's home
School –Working with youth or professionals in the youth's educational setting, other than in the context of an IEP/MP meeting
Community – Working with youth or others in the youth's community/neighborhood
Out of Home – Working with the youth or family in a residential facility
Clinic/Office – Working with the youth or family in a clinical office
Other – Another setting not specified above; please write description

For Service Dates, please provide the dates for each service provided during that month. If additional space is required, please continue writing dates in the area below the boxes provided. If the service

was provided out of home (i.e., continuously), please provide start and end dates for that month's services and put the word "to" in between in one of the boxes.

Targets

Targets are the strengths and needs being addressed as part of the mental health services for that youth. When completing the Targets Addressed This Month, please put numbers (1, 2, 3…) rather than checkmarks (X, ☐) to the left of each target addressed. This is so that progress ratings in the next section can be attached to each target. For example, if "Academic Achievement" was targeted, place a "1" in the box to the left of that target on the form. Numbers do not need to reflect any particular order. If more than 10 targets were addressed during the month, please provide only those you feel are the 10 most important. If a target was addressed for which there is no option, please number the "other" box, and write in the target.

The list of treatment targets is intended to provide a summary of strengths and needs that are commonly targeted for change during mental health service provision. These problem areas are NOT diagnostic descriptions and the primary targets for treatment may change over time for a particular youth. For example, when treating a youth with an eating disorder, treatment may target eating/feeding behavior at one point, but target medical regimen adherence or positive family functioning on other occasions. These treatment targets are for progress summary purposes and should NOT replace the detailed specification of goals and objectives as part of the treatment planning process.

Definitions of Targets

1. **Academic Achievement** – Issues related to general level or quality of achievement in an educational or academic context. This commonly includes performance in coursework, and excludes cognitive-intellectual ability/capacity issues (#11) and specific challenges in learning or achievement (#24)
2. **Activity Involvement** – Issues related to general engagement and participation in activities. Only code here those activities that are not better described by the particular activity classes of school involvement (#40), peer involvement (#30), or community involvement (#12).
3. **Adaptive Behavior/Living Skills** – Skills related to independent living, social functioning, financial management, and self-sufficiency that are not better captured under other codes such as personal hygiene (#33), self-management/self-control (#43), social skills (#47), housing/living situation (#22), or occupational functioning/stress (#28).
4. **Adjustment to Change** – Issues related to a youth's global response to a life transition or specific challenge (e.g., change of school, living situation, treatment transition or discharge, etc.).
5. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.
6. **Anger –** Emotional experience or expression of agitation or destructiveness directed at a particular object or individual. Common physical feelings include accelerated heartbeat, muscle tension, quicker breathing, and feeling hot.
7. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.
8. **Assertiveness** – The skills or effectiveness of clearly communicating one's wishes. For example, the effectiveness with which a child refuses unreasonable requests from others, expresses his/her rights in a non-aggressive manner, and/or negotiates to get what s/he wants in their relationships with others.
9. **Attention Problems** – Described by short attention span, difficulty sustaining attention on a consistent basis, and susceptible to distraction by extraneous stimuli.

10. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.
11. **Cognitive-Intellectual Functioning** – Issues related to cognitive-intellectual ability/capacity and use of those abilities for positive adaptation to the environment. This includes efforts to increase IQ, memory capacity, or abstract problem-solving ability.
12. **Community Involvement** – Issues related to the amount of involvement in specific community activities within the child's day.
13. **Contentment/Enjoyment/Happiness –** Refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.
14. **Depressed Mood** – Behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.
15. **Eating/Feeding Problems**– Knowledge or behaviors involved with the ingestion or consumption of food. May include nutritional awareness, food choice, feeding mechanics (e.g., swallowing, gagging, etc.), and social factors relating with eating situations.
16. **Empathy** – Identifications with and understanding of another person's situation, feelings, and motives.
17. **Enuresis/Encopresis** – Enuresis refers to the repeated pattern of voluntarily or involuntarily passing urine at inappropriate places during the day or at night in bed or clothes. Encopresis refers to a repeated pattern of voluntarily or involuntarily passing feces in inappropriate places.
18. **Fire Setting** – Intentionally igniting fires.
19. **Gender Identity Problems –** Issues related with a youth's self-concept or self-understanding involving gender roles and social behaviors in relation to their biological sex. This does not address self-concept issues involving sexual orientation, which would be coded as "other."
20. **Grief** – Feelings associated with a loss of contact with a significant person in the youth's environment (e.g., parent, guardian, friend, etc.).
21. **Health Management** – Issues related to the improvement or management of one's health, inclusive of both physical illness and fitness. In addition to dealing with the general development of health-oriented behavior and management of health conditions, this target can also focus on exercise or lack of exercise.
22. **Housing/Living Situation** – Refers to finding or stabilizing an appropriate living situation for a youth.
23. **Hyperactivity** – Can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.
24. **Learning Disorder, Underachievement** – Refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning (#11) or general academic achievement (#1).
25. **Low Self-Esteem** – An inability to identify or accept his/her positive traits or talents, and accept compliments. Verbalization of self-disparaging remarks and viewing him or herself in a negative manner.
26. **Mania** – An inflated self-perception that can be manifested by loud, overly friendly social style that oversteps social boundaries, and high energy and restlessness with a reduced need for sleep.
27. **Medical Regimen Adherence –** Knowledge, attitudes, and behaviors related to regular implementation procedures prescribed by a health care professional. Commonly include lifestyle behaviors (e.g., exercise, nutrition), taking medication, or self-administration of routine assessments (e.g., taking blood samples in a diabetic regimen).
28. **Occupational Functioning/Stress** – Issues related to career interests, seeking employment, obtaining work permits, job performance, or managing job stress or strain that are not better characterized under other targets (e.g., anxiety).

29. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).
30. **Peer Involvement** – A greater involvement in activities with peers. Activities could range from academic tasks to recreational activities while involvement could range from working next to a peer to initiating an activity with a peer.
31. **Peer/Sibling Conflict** – Peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.
32. **Phobia/Fears** – Irrational dread, fear, and avoidance of an object, situation, or activity.
33. **Personal Hygiene** – Challenges related to self-care and grooming.
34. **Positive Family Functioning** – Issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of an interaction among multiple persons in a family relation, broadly defined.
35. **Positive Peer Interaction** – Social interaction and communication with peers that are pro-social and appropriate. This differs from peer involvement (#30) in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
36. **Positive Thinking/Attitude –** This target involves clear, healthy, or optimistic thinking, and involves the absence of distortions or cognitive bias that might lead to maladaptive behavior.
37. **Pregnancy Education/Adjustment** – Issues related to helping a pregnant youth prepare and adjust to parenthood.
38. **Psychosis** – Issues related to atypical thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.
39. **Runaway** – Running away from home or current residential placement for a day or more.
40. **School Involvement** – Detailed description of amount of involvement in specific school activities within the child's scheduled school day.
41. **School Refusal/Truancy** – Reluctance or refusal to attend school without adult permission for the absence. May be associated with school phobia or fear manifested by frequent somatic complaints associated with attending school or in anticipation of school attendance, or willful avoidance of school in the interest of pursuing other activities.
42. **Self-Injurious Behavior** – Acts of harm, violence, or aggression directed at oneself.
43. **Self-Management/Self-Control** – Issues related to management, regulation, and monitoring of one's own behavior.
44. **Sexual Misconduct** – Issues related with sexual conduct that is defined as inappropriate by the youth's social environment or that includes intrusion upon or violation of the rights of others.
45. **Shyness** – Social isolation and/or excessive involvement in isolated activities. Extremely limited or no close friendships outside the immediate family members. Excessive shrinking or avoidance of contact with unfamiliar people.
46. **Sleep Disturbance** – Difficulty getting to or maintaining sleep.
47. **Social Skills** – Skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.
48. **Speech and Language Problems** – Expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.
49. **Substance Abuse/Substance Use** – Issues related to the use or misuse of a common, prescribed, or illicit substances for altering mental or emotional experience or functioning.
50. **Suicidality** – Issues related to recurrent thoughts, gestures, or attempts to end one's life.
51. **Traumatic Stress** – Issues related to the experience or witnessing of life events involving actual or threatened death or serious injury to which the youth responded with intense fear, helplessness, or horror.

52. **Treatment Engagement –** The degree to which a family or youth is interested and optimistic about an intervention or plan, such that they act willfully to participate and work toward the success of the plan.
53. **Willful Misconduct/Delinquency** – Persistent failure to comply with rules or expectations in the home, school, or community. Excessive fighting, intimidation of others, cruelty or violence toward people or animals, and/or destruction of property.

Progress Ratings

Please provide a single progress rating for each target selected above (up to 10). Numbers 1 through 10 in the left column refer to the targets selected in the Targets Addressed This Month section above. For example, had you selected "Academic Achievement" above, there would be a "1" in the box to the left of that target on that section. Then, the first row of the Progress Ratings, labeled "1," is where you would note the progress ratings associated with academic achievement.
Please place a mark (X, ☐) in the column corresponding to your subjective rating of progress associated with this target. When possible, your overall subjective ratings should be informed by a review of objective measures such as any available and relevant questionnaires or behavioral observation data. For example, if a youth receives a T-score of 70 during an intake assessment and the treatment goal is to reduce this score to 60, then if a youth receives a T-score of 65 during a monthly assessment, than 50% progress may be reported [i.e., 70 – 65 / 70 – 60 = 5 / 10 = 50%]. Or if a youth gets into 10 fights per week initially and the treatment goal is to reduce fighting to 0 fights per week, then during a month in which the youth was fighting only 3 times per week, that would reflect 70% progress [i.e., 10 – 3 / 10 – 0 = 7 / 10 = 70%].
Anchors refer to changes from baseline or beginning of services for that target. Thus, a youth who had reached 90% of an initial goal would receive a rating of "significant improvement." If that progress were to decline to 70% in the following month, the youth would then get a rating of "moderate improvement" for that target for that month (not "deterioration"). "Deterioration" refers to when a target gets worse from the time it was initially addressed. If there is a break in addressing a specific target (e.g., a target is addressed, then not addressed for a month, then addressed again in a later month), use the initial baseline from the first time as the point of comparison. Only when there is a break in the complete episode of care (i.e., discharge followed by later admission), should that reset the baseline for a given target.
If a goal is reached (improvement is complete), the provider may choose to note the date in the rightmost column. This implies that the target is no longer being addressed. Targets that are not complete should be rated again on the following month's summary form.

Intervention Strategies

Please place a mark (X, ☐) to the left of any intervention strategies used during the past month. There is no limit to how many may be checked. If strategies were employed that are not in the following list of definitions, please mark the "other" box and write in the strategy used.

Definitions of Intervention Strategies

1. **Activity Scheduling** – The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.
2. **Assertiveness Training** – Exercises or techniques designed to promote the child's ability to be assertive with others, usually involving rehearsal of assertive interactions.
3. **Attending** – Exercises involving the youth and caregiver playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the

caregiver's imitation and participation in the youth's activity, as well as parent-directed play (previously called "Directed Play").

4. **Behavioral Contracting** – Development of a formal agreement specifying rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement.
5. **Biofeedback/ Neurofeedback** – Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.
6. **Care Coordination** – Coordinating among the youth's service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.
7. **Catharsis** – Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.
8. **Cognitive** – Any techniques designed to alter interpretation of events through examination of the child's reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.
9. **Commands** – Training for caregivers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.
10. **Communication Skills** – Training for youth or caregivers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, "I" statements).
11. **Crisis Management** – Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.
12. **Cultural Training** – Education or interaction with culturally important values, rituals, or sites with no specific practices identified.
13. **Discrete Trial Training** – A method of teaching involving breaking a task into many small steps and rehearsing these steps repeatedly with prompts and a high rate of reinforcement.
14. **Educational Support** – Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
15. **Emotional Processing** – A program based on an information processing model of emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.
16. **Exposure** – Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist's elaboration or intensification of the meaning of the stimulus.
17. **Eye Movement/ Tapping** – A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
18. **Family Engagement** – The use of skills and strategies to facilitate family or child's positive interest in participation in an intervention.
19. **Family Therapy** – A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caregivers, and sometimes siblings.
20. **Free Association** – Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
21. **Functional Analysis** – Arrangement of antecedents and consequences based on a functional understanding of a youth's behavior. This goes beyond straightforward application of other behavioral techniques.

22. **Goal Setting** – Setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.).
23. **Guided Imagery** – Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#50).
24. **Hypnosis** – The induction of a trance-like mental state achieved through suggestion.
25. **Ignoring/Differential Reinforcement of Other Behavior** – The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.
26. **Individual Therapy for Caregiver –** Any therapy designed directly to target individual (non-dyadic) psychopathology in one or more of the youth's caregivers. If the therapy for caregivers involves marital therapy (#31) or communication skills (#10) those are not coded here, unless there are additional services for individual caregiver psychopathology, in which case all that apply should be coded.
27. **Insight Building** – Activity designed to help a youth achieve greater self-understanding.
28. **Interpretation** – Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.
29. **Line of Sight Supervision** – Direct observation of a youth for the purpose of assuring safe and appropriate behavior.
30. **Maintenance/Relapse Prevention** – Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future
31. **Marital Therapy** – Techniques used to improve the quality of the relationship between caregivers.
32. **Medication/ Pharmacotherapy** – Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
33. **Mentoring** – Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
34. **Milieu Therapy** – A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
35. **Mindfulness** – Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being "in the moment." This can involve the youth's conscious observation of feelings, thoughts, or situations.
36. **Modeling –** Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
37. **Motivational Interviewing** – Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.
38. **Natural and Logical Consequences** – Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.
39. **Parent Coping** – Exercises or strategies designed to enhance caregivers' ability to deal with stressful situations, inclusive of formal interventions targeting one or more caregiver.
40. **Parent/Teacher Monitoring** – The repeated measurement of some target index by the parent, teacher, or other adult involved in the child's social ecology.

41. **Parent/Teacher Praise** – The training of parents, teachers, or other adults involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.
42. **Peer Pairing** – Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
43. **Personal Safety Skills** – Training for the youth in how to maintain personal safety of one's physical self. This can include education about attending to one's sense of danger, body ownership issues (e.g., "good touch-bad touch"), risks involved with keeping secrets, how to ask for help when feeling unsafe, and identification of other high-risk situations for abuse.
44. **Physical Exercise –** The engagement of the youth in energetic physical movements to promote strength or endurance or both. Examples can include running, swimming, weight-lifting, karate, soccer, etc. Note that when the focus of the physical exercise is also to produce talents or competence and not just physical activity and conditioning, the code for "Skill Building" (#55) can also be applied.
45. **Play Therapy** – The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Attending (#3), which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality (#49).
46. **Problem Solving** – Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
47. **Psychoeducational-Child** – The formal review of information with the child about the development of a problem and its relation to a proposed intervention.
48. **Psychoeducational-Parent** – The formal review of information with the caregiver(s) about the development of the child's problem and its relation to a proposed intervention. This often involves an emphasis on the caregiver's role in either or both.
49. **Relationship/Rapport Building** – Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.
50. **Relaxation** – Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.
51. **Response Cost** – Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.
52. **Response Prevention** – Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
53. **Self-Monitoring** – The repeated measurement of some target index by the child.
54. **Self-Reward/Self-Praise** – Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.
55. **Skill Building** – The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.
56. **Social Skills Training** – Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing (#42), that should be coded as well.
57. **Stimulus/Antecedent Control** – Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.
58. **Supportive Listening** – Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.

59. **Tangible Rewards** – The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.
60. **Therapist Praise/Rewards** – The administration of tangible (i.e., rewards) or social (e.g., praise) reinforcers by the therapist.
61. **Thought Field Therapy** – Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.
62. **Time Out** – The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.
63. **Twelve-Step Program** – Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.

For medication interventions please list each psychiatric medication the youth is taking (e.g., Adderall ER), describe the prescribed total daily dose for each medication (e.g., 30 mg,), identify the prescribed dose schedule (e.g., 2x/week, 3x/day, 15-10-5/day, etc.), place a check mark in the appropriate box if there was a change in the medication or regimen during the reporting month, and provide a description of the change on the line to the right (e.g., new medication, daily dosage change from 10 to 30 mg, change in dose schedule from 5-5/day to 10-10-10/day, etc.).
For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.
For Discharged During Month please indicate if the youth was discharged from your program during the reporting month. If the youth was discharged, please indicate the Living Situation that the youth was entering upon discharge and the Reason for Discharge. For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.

Living Situation upon Discharge

Please place a mark (X, ☐) to the left of statement that best describes the type of living environment in which the youth was expected to reside at the time of discharge. Please select only one option. If the youth's living situation at discharge is not well described by the following list of definitions, please mark the "other" box and write in the youth's living situation.

1. **Home** - Youth to live in a house, apartment, trailer, hotel, dorm, barrack, and/or single room occupancy. This excludes situations better characterized as foster homes.
2. **Foster Home**-Youth to reside in a foster home or therapeutic foster home. A foster home is a home that is licensed to provide foster care to children, adolescents, and/or adults.
3. **Group Care**-Youth to reside in a group care facility. This level of care may include a group home, therapeutic group home, or board and care. This excludes community-based residential and hospital-based residential care
4. **Residential Treatment**- Youth to reside in a community-based residential treatment, rehabilitation center, or other residential treatment that is not better characterized as a group home or institution/hospital facility. An organization, not licensed as a psychiatric hospital, whose primary purpose is the provision of individually planned programs of mental health treatment services in conjunction with residential care for children and youth. The services are provided in facilities that are certified by state or federal agencies or through a national accrediting agency.
5. **Institutional/Hospital**-Youth resides in an institutional care or hospital-based residential care facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a

skilled nursing/intermediate care facility, nursing homes, institutes of mental disease, inpatient psychiatric hospital, psychiatric health facility, Veterans Affairs hospital, or state hospital.

6. **Jail/Correctional Facility**-Youth resides in a Jail and/or Correctional facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a jail, correctional facility, detention centers, prison, youth authority facility, juvenile hall, boot camp, or boys ranch.
7. **Homeless/Shelter**- A youth is considered homeless if s/he lacks a fixed, regular, and adequate nighttime residence or his/her primary nighttime residency is a supervised publicly or privately operated shelter designed to provide temporary living accommodations, an institution that provides a temporary residence for individuals intended to be institutionalized, or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings (e.g., on the street). Youth who were discharged due to extended runaway or elopement episode should be recorded in this category.

Reason(s) for Discharge

Please place a mark (X, ☐) to the left of each statement that describes the reasons for discharging youth from the program during the reporting month. There is no limit to how many may be checked. If the discharge reason is not well characterized by the following list of definitions, please mark the "other" box and write in the reason.

1. **Success/Goals Met**-Youth was clinically discharged due to sufficient treatment progress (e.g., symptoms reduced, functioning improved), treatment goals were met, youth was evaluated and services were determined unnecessary, services were completed, or youth was moving to a less restrictive and intensive level of care.
2. **Insufficient Progress**-Youth was discharged from service without showing sufficient treatment progress to be judged as clinically successful (i.e., little symptom reduction, improvement in functioning, or goal attainment was achieved).
3. **Family Relocation**-Youth was discharge because the youth and family moved out of state or out of the service area.
4. **Runaway/Elopement**-Youth was discharged in association with an extended period of unavailability for treatment because the youth had runaway from home or eloped from the program.
5. **Refuse/Withdraw**-Youth was discharged due to parental refusal, non-participation in treatment, lack of consent, or other indication that client withdrew from services against professional advice.
6. **Eligibility Change**-Youth was discharged in association with a change in eligibility for services, such as a termination of a court order or commitment, aging out of child and adolescent services, loss of Medicaid insurance, etc.

Please provide any other Comments or Suggestions for the youth's care coordinator you think would be important. If scores are available on any of the Outcome Measures recommended in the Interagency Practice Guidelines, please provide them along with dates in the optional section provided. Include whether or not youth was arrested during the past month, and an estimate of the percentage of school days that were attended. If school is attended in a residential setting, this counts toward the percentage of days attended. For the CAFAS, the numbered spaces refer to the following scales: 1-School, 2-Home, 3-Community, 4-Behavior Towards Others, 5-Moods/Emotions, 6-Self-Harm, 7-Substance, 8-Thinking. "Total" refers to the sum of these 8 scales. Please write the name of the agency including location (e.g., Maui, Big Island) and name of the clinicians (along with CAMHMIS ID#) and provider, along with appropriate signatures of the clinician completing the form and the qualified supervisor. Note the date that the form was submitted electronically to CAMHD and provide name of Care Coordinator.

Appendix F: Practitioner Background Questionnaire

PRACTITIONER BACKGROUND QUESTIONNAIRE

CAMHD Provider ID #:

1. Today's Date: / /	**2. Age:**	**3. Gender:** Male Female	**4. Agency/Organization/School Name:**	**5. Work Zip Code:**

6. Race (Check ALL that apply):
_____ Alaska Native or American Indian
_____ Asian
_____ Black or African American
_____ Hispanic or Latino
_____ Native Hawaiian or Pacific Islander
_____ White or Caucasian
_____ Other: _____
_____ Race Unknown

7. Racial Identity (Check the ONE that you identify with the MOST):
_____ Alaska Native or American Indian
_____ Asian
_____ Black or African American
_____ Hispanic or Latino
_____ Native Hawaiian or Pacific Islander
_____ White or Caucasian
_____ Other: _____
_____ Race Unknown

8. Highest Degree Earned (Check ONLY one):
_____ HS Diploma or GED
_____ A.A./Voc./Non-Degree Cert. (e.g., CSAC)
_____ B.A./B.S.
_____ M.Ed.
_____ MSW, LCSW, etc.
_____ M.A./M.S. Counseling
_____ M.A./M.S. Other (specify:)
_____ R.N., L.P.N., etc.
_____ Doctoral Student/Intern
_____ Psy.D.
_____ Ph.D.
_____ M.D.
_____ Other (specify:)

9. Date of most advanced degree:

(Mo/Yr) ____/____

10. Are you **State Licensed?**

Yes No

11. Type of Licensure:

_____

12. Professional Specialty:
(Check ONLY one - if you have multiple, check the one you identify with most)
_____ Clinical Psychology
_____ Counseling (Education)
_____ Counseling (Psychology)
_____ Education/Special Education
_____ Marriage & Family Therapy
_____ Psychiatry
_____ School Psychology
_____ Social Work
_____ Substance Abuse Counseling
_____ Other (specify: _____)

13. Primary Clinical Setting (where you provide services; select ONLY one):
(If you work in multiple settings, select the setting where you spend most time)
_____ Out-of-Home (e.g., Hospital, Residential, Group Home, Therapeutic Foster Care)
_____ In-Home (e.g., IIH/13010)
_____ Out-Patient Clinic (e.g., agency clinic, private practice)
_____ School-Based
_____ Other Setting (please specify):
_____

14. Professional Activities (Please provide %; Must sum to **100%**):
_____ Assessment & Treatment Planning
_____Therapy
_____ Supervision of Others
_____ Clinical Training
_____ Administrative Work (includes paperwork, billing, managing others, etc.)
_____ Other (specify: _____)

15. Theoretical Orientations (Check ALL that you use):	**16. PRIMARY Theoretical Orientation** (Please provide %; must sum to **100%**):
_____ Behavioral	_____ Behavioral
_____ Cognitive or Cognitive-Behavioral	_____ Cognitive or Cognitive-Behavioral
_____ Eclectic or Integrative	_____ Eclectic or Integrative
_____ Existential or Gestalt	_____ Existential or Gestalt
_____ Humanistic or Client Centered	_____ Humanistic or Client Centered
_____ Psychoanalytic or Psychodynamic or Object Relations	_____ Psychoanalytic or Psychodynamic or Object Relations
_____ Systems or Family-Systems	_____ Systems or Family-Systems
_____ Other (specify: _____)	_____ Other (specify: _____)

17. Years of **FORMAL clinical training** (beyond undergraduate degree, does NOT include workshops or CEUs; e.g., 3 years for a MFT)
_____

18. Years **full time clinical experience** (since earning terminal degree; e.g., 12 years post-MFT) _____

19a. Does your profession/license/agency **require continuing education**? YES NO

19b. If yes, how many **hours or units of continuing education are required** each year? _____

20. What is the average number of **continuing education workshops/trainings/conferences** you attend each year: _____

21. How many **active cases** do you typically carry at one time? _____

22. About how many **hours of supervision** do you receive each month? _____

Appendix G: Revised Evidence-Based Practice Process Assessment Scale

Revised Evidence-Based Practice Process Assessment Scale

Purpose: The purpose of this scale is to assess your familiarity with, views about, and the use of the Evidence-Based Practice (EBP) process.

Definition: The EBP process includes considering the best research evidence available as part of the basis for making practice decisions. It does NOT mean just providing an evidence-based treatment; rather it means engaging in each of the following five steps in your practice:

1. Formulating a practice question that can be answered by searching for research evidence
2. Tracking down the best research evidence to answer the question
3. Critically appraising the evidence
4. Integrating the critical appraisal with practitioner expertise and client attributes to guide your practice decision
5. Evaluating the outcomes of the practice decision

Instructions: The scale contains five sections. For the first three sections (I-III), please circle the response to the right that best fits how much you agree or disagree with statements regarding the EBP process. For the final two sections (IV-V), please circle the response that best fits the frequency with which you intend to and currently engage in the EBP process.

EBP is a relatively new concept. Therefore, like many other practitioners, you may know little about it. Nevertheless, please answer all items, even if you are unsure of your answer or have no opinion. Please circle N (Neutral) for every item for which you are neutral, uncertain, or feel that you don't know enough about EBP to respond in an informed manner.

All responses are anonymous; please answer each item according to how you really view the EBP process and its feasibility in your practice. Thank you!

Section I. Familiarity with the Evidence-Based Practice (EBP) Process

Statement	Level of agreement				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1. I know how to skillfully apply the steps of the EBP process.	SD	D	N	A	SA
2. I understand how to formulate questions about practice that can be answered with research evidence.	SD	D	N	A	SA
3. I feel confident in my ability to find the best research evidence to guide my practice decisions.	SD	D	N	A	SA
4. I know how to find systematic reviews.	SD	D	N	A	SA
5. I understand how to appraise the research evidence pertaining to my practice question.	SD	D	N	A	SA
6. I can differentiate between very weak evidence and very strong evidence.	SD	D	N	A	SA
7. I know what factors to consider in addition to the research evidence when making practice decisions.	SD	D	N	A	SA
8. I understand how to evaluate the outcomes of my practice decisions.	SD	D	N	A	SA
9. I understand what is meant by the term research-based practice guidelines.	SD	D	N	A	SA

10. I know how to use the Internet to facilitate my search for research evidence.	SD	D	N	A	SA

Section II. Attitudes About the Evidence-Based Practice (EBP) Process

Statement	Level of agreement				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
11. EBP is nothing more than a way to cut treatment costs.	SD	D	N	A	SA
12. EBP helps improve clients' outcomes.	SD	D	N	A	SA
13. Engaging in EBP hinders the use of practitioner judgment.	SD	D	N	A	SA
14. Practitioners who engage in the EBP process show greater concern for client well being than practitioners who do not engage in EBP.	SD	D	N	A	SA
15. Engaging in the EBP process makes practice too mechanistic.	SD	D	N	A	SA
16. The EBP process allows enough room for considering unique client circumstances or preferences.	SD	D	N	A	SA
17. The judgment of esteemed colleagues or supervisors offers a better basis than research evidence for improving practice effectiveness.	SD	D	N	A	SA
18. EBP helps clients meet their goals.	SD	D	N	A	SA
19. Engaging in the EBP process hinders the practitioner-client relationship.	SD	D	N	A	SA
20. Trying to engage in EBP is more ethical than refusing to engage in it.	SD	D	N	A	SA
21. I know what is best for my clients without examining the research evidence.	SD	D	N	A	SA
22. Experienced practitioners should disregard research evidence when it conflicts with their intuition.	SD	D	N	A	SA
23. Engaging in the EBP process will improve one's practice.	SD	D	N	A	SA
24. Engaging in the EBP process means using interventions that won't apply to the kinds of clients I see.	SD	D	N	A	SA

Section III. Feasibility for You to Engage in the Evidence-Based Practice (EBP) Process

Statement	Level of agreement				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
25. I have enough time to engage in the EBP process.	SD	D	N	A	SA
26. I have enough access to the research literature to engage in EBP.	SD	D	N	A	SA
27. I am too busy to think about incorporating anything new into my practice.	SD	D	N	A	SA
28. I have enough time to evaluate the outcomes of my practice decisions.	SD	D	N	A	SA
29. The constraints of my practice setting	SD	D	N	A	SA

	preclude me from engaging in the EBP process.

Section IV. Intentions to Engage in the Evidence-Based Practice (EBP) Process

Instructions: For this section, please circle the number to the right of each item that best describes how often you intend to engage in the specified behavior.

Behavior	Frequency				
	Never	*Rarely*	*Some of the time*	*Often*	*Very often*
30. I intend to use the Internet to search for the best research evidence to guide my practice decisions.	1	2	3	4	5
31. I intend to read about research evidence to guide my practice decisions.	1	2	3	4	5
32. I intend to read research-based practice guidelines to guide my practice decisions	1	2	3	4	5
33. I intend to rely on research evidence as the best guide for making practice decisions.	1	2	3	4	5
34. I intend to inform clients of the degree of research evidence supporting alternative intervention options.	1	2	3	4	5
35. I intend to involve clients in deciding whether they will receive an intervention supported by the research evidence.	1	2	3	4	5
36. I intend to evaluate the outcomes of my practice decisions.	1	2	3	4	5
37. I intend to engage in all steps of the EBP process.	1	2	3	4	5

Section V. How Often Do You Currently Engage in the EBP process?

Instructions: For this section, please circle the number to the right of each item that best describes how often you currently engage in the specified behavior.

Behavior	Frequency				
	Never	*Rarely*	*Some of the time*	*Often*	*Very often*
38. I use the Internet to search for the best research evidence to guide my practice decisions.	1	2	3	4	5
39. I read about research evidence to guide my practice decisions.	1	2	3	4	5
40. I read research-based practice guidelines to guide my practice decisions.	1	2	3	4	5
41. I rely on research evidence as the best guide for making practice decisions.	1	2	3	4	5
42. I inform clients of the degree of research evidence supporting alternative intervention options.	1	2	3	4	5
43. I involve clients in deciding whether they will receive an intervention supported by the research evidence.	1	2	3	4	5
44. I evaluate the outcomes of my practice decisions.	1	2	3	4	5
45. I engage in all steps of the EBP process.	1	2	3	4	5

Appendix H: Therapist consent form

Agreement to Participate in Study on Therapist Knowledge and Attitudes in Evidence-Based Practice

Kelsie H. Okamura, M.A. & Brad J. Nakamura, Ph.D.
University of Hawaii at Mānoa
2430 Campus Road
Honolulu, HI 96822

My name is Kelsie Okamura and I am a graduate student at the University of Hawaii at Mānoa in the Department of Psychology. I am doing a research project as a requirement for earning my graduate degree. This research project is being conducted to learn more about therapists' knowledge and attitudes impact on using evidence-based mental health treatments. You are being asked to participate because you are a current CAMHD contracted provider. Complete participation in the project consists of filling out questionnaires today. Filling out all questionnaires is desired, but not necessary for participation and you may choose which questionnaires you would like to complete.

What activities will you do in the study and how long will the activities last? You will be asked to fill out one demographic questionnaire and three other surveys on mental health knowledge and attitudes. These surveys should take approximately 20 minutes to complete. In addition, we are asking for your CAMHD Provider ID# so we can connect your confidential survey data with routine CAMHD monitoring strategies for your clients (i.e., Monthly Treatment Progress Summary without protected health information).

Benefits and Risks: There may be a small risk that you will experience some psychological discomfort when filling out questionnaires. Participating in this research may be of no direct benefit to you, but it is believed that the results from this project will help CAMHD learn more about the impact of therapist characteristics as moderators of adopting evidence-based practices. Additionally, CAMHD staff will use these results for quality improvement purposes.

Confidentiality and Privacy: No personal identifying information (i.e., your name, CAMHD Provider ID#) will be included with the study nor will the information gathered about you be shared with your agency/organization. The results will be reported in aggregate form only.

Research data will be confidential to the extent allowed by law. Agencies with research oversight, such as the UH Committee on Human Studies, have the authority to review research data. All research records will be stored in a locked file in the primary investigators' office for the duration of the research project. All other research records will be destroyed upon completion of the project.

Voluntary Participation: Participation in this research project is completely voluntary. You are free to withdraw from participation at any time during the duration of the project with no penalty, or loss of benefit to which you would otherwise be entitled. You will be compensated with a $5 gift card for your time.

Questions: If you have any questions regarding this research project, please contact the primary investigator, Kelsie Okamura, at 956-9559. If you have any questions regarding your rights as a research participant, please contact the UH Committee on Human Studies at (808) 956-5007, or uhirb@hawaii.edu.

Participant:
I have read and understand the above information, and agree to participate in this research project.

_____	_____
Name (printed)	CAMHD Provider ID #
_____	_____
Signature	Date